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Products, News & Information Data Centers Can Trust. Since 1979

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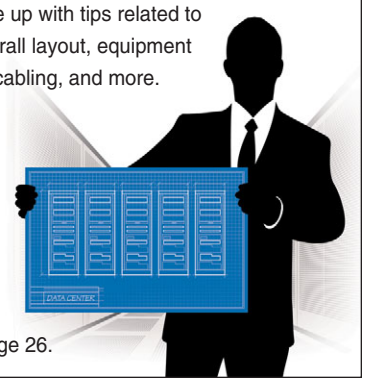

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Reliable, Continuous Uptime & Availability

NEC's Fault-Tolerant Servers Give Insurance Company Peace Of Mind When It Comes To Serving Its Customers

by Kris Glaser Brambila

• • •

Blue Cross and Blue Shield of Nebraska is the leading healthcare provider in the state, serving nearly 717,000 individuals. Founded in 1939, the company offers health insurance to families, individuals, and companies of all sizes. Apparent in its mission statement, BCBS of Nebraska strives, above all, to provide the health and wellness solutions that its customers will find most beneficial, giving them the reassurance and peace of mind promised in BCBS' slogan: "One Less Thing To Worry About."

Like any business that handles critical information, BCBS of Nebraska must keep track of sensitive information about its customers and must depend on the availability of that information at all times. That fundamental need has always existed, but without the proper infrastructure, BCBS of Nebraska can't wholly serve its customers to the company's standards. That's why nearly four years ago, BCBS of Nebraska began investigating the use of the family of fault-tolerant servers offered by NEC.

Fault Tolerance

NEC's fault-tolerant servers are built to keep your company's critical data and applications running at all times. According to Mike Mitsch, manager for NEC's IT Platform Group, fault-tolerant servers are most useful for companies that store vulnerable information. "Fault-tolerant systems have been used in the most mission-critical applications, such as 911 systems, air-traffic control systems, [and] areas for financial data, where absolutely no data can be lost," he says. That includes the healthcare insurance industry.

After researching NEC, BCBS of Nebraska purchased multiple fault-tolerant modules, according to Jodi Shely, system administrator II at BCBS of Nebraska and vExpert 2010 for the VMware User Group board of directors. "Scalability, redundancy, and performance are three of the highest key points that we use [NEC's] servers for," Shely says. BCBS of Nebraska uses NEC's Express5800 A1160, which features a four- or six-core Intel Xeon 7400 processor and up to 1TB of total memory when using four modules together.

The Express5800 A1160 is just one example of the fault-tolerant servers from NEC. The company recently announced that its Express5800 R320a and 320Fd models support VMware vSphere natively, giving organizations more uptime for their most critical virtualization applications. Regarding the announcement, NEC's Mitsch states that every CIO should be taking the time to understand how the new fault-tolerant systems can benefit their business, "as they deploy mission-critical, performance-oriented applications into the virtualization environment."

Shely says the Express5800 A1160 servers will see a larger implementation at BCBS in the near future. "I think that we're going to start seeing more scalability with these fault-tolerant servers when it comes to Active Directory and SQL servers and applications being isolated," she says. "That server is really going to start to take off once people start to see what kind of fault tolerance they want to put on applications in remote locations."

Shely says that BCBS of Nebraska is more than satisfied with the servers. The servers' performance is one of the main reasons the company chose NEC. "The NEC servers outperformed the current products being offered," she says. And Shely would know. Previously, BCBS of Nebraska was using servers provided by an NEC competitor, and although Shely says the servers worked well enough, NEC's fault-tolerant servers offered more of the benefits and reliability BCBS needed.

Service & Installation

BCBS of Nebraska was also looking to be taken care of by its server manufacturer. "[NEC] provides great support and reliability with their server maintenance [and] server troubleshooting," Shely says. As far as downtime goes, Shely explains, BCBS of Nebraska has only experienced one server outage in more than a year, and that wasn't even an error with the server. "We had one issue, and that was due to third-party agents running Windows Server," she says.

Shely is appreciative of NEC's support. "They're Johnny-on-the-spot when it comes to an issue," she says. "If you have an issue, you immediately get somebody," she says.

Implementing NEC's fault-tolerant servers, Shely says, was a cinch. "They actually had somebody come onsite," she says. "They were here through the entire implementation and provided awesome follow-up." Shely says that NEC is still following up to make sure its systems are running the way BCBS wants them to. "They're not just one to leave you with a product and walk away. They support it until it's fully implemented and then provide support afterwards," she says.

Because of NEC's fault-tolerant servers, BCBS of Nebraska can maintain its reliable services for customers without the worry of unexpected and costly downtime. "We've gotten more than what we expected out of the fault-tolerant systems," Shely says. P

NEC Fault-Tolerant Servers

A line of reliable servers that use redundant modular hardware and Intel Xeon-based technology to provide continuous uptime.

"[NEC] is Johnny-on-the-spot when it comes to an issue. If you have an issue, you immediately get somebody, which is really important to Blue Cross," says Jodi Shely, system administrator II at BCBS of Nebraska.

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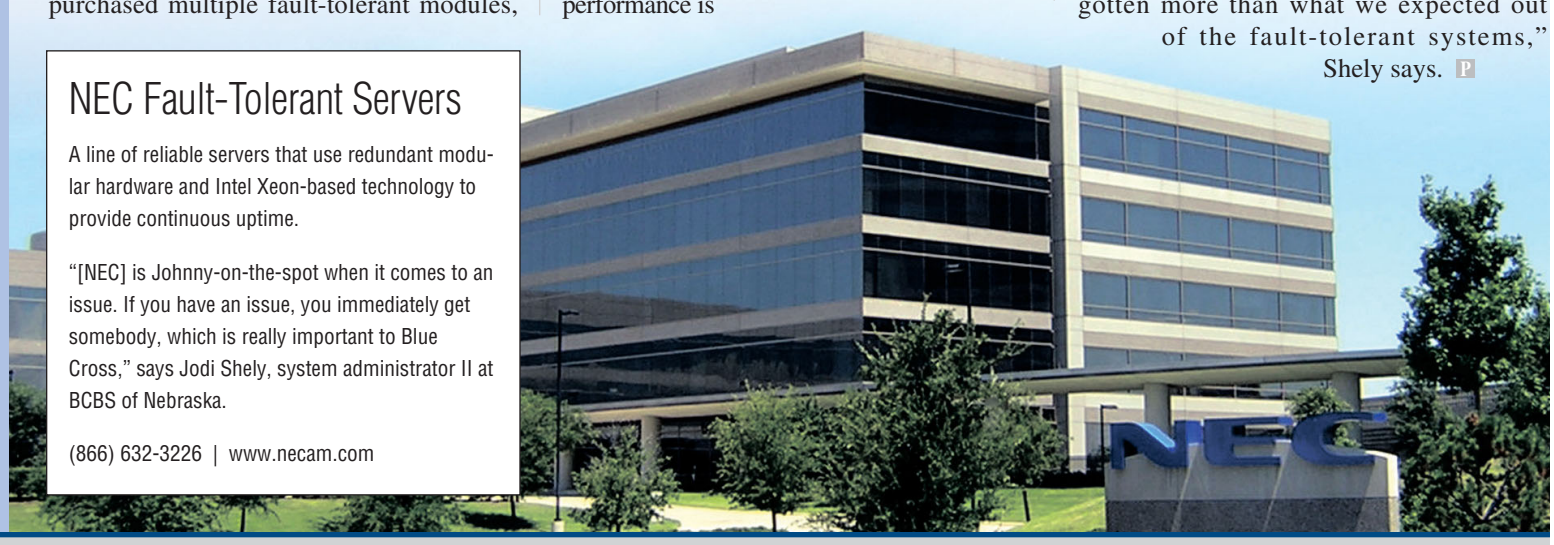

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   - ☐ Less than 10
   - ☐ 10 to 99
   - ☐ 100 to 199
   - ☐ 200 to 499
   - ☐ 500 to 999
   - ☐ 1,000+

2. **How often do you purchase computer hardware/software?**
   - ☐ Weekly
   - ☐ Bi-weekly
   - ☐ Monthly
   - ☐ Quarterly
   - ☐ Annually
   - ☐ No Involvement

3. **What is your annual computer hardware/software purchasing budget?**
   - ☐ $0 to $9,999
   - ☐ $10,000 to $24,999
   - ☐ $25,000 to $49,999
   - ☐ $50,000 to $99,999
   - ☐ $100,000 to $249,999
   - ☐ $250,000 to $499,999
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News

Cloud Ranks At Top Of Security Risks

According to a survey of security professionals conducted by the RSA Conference, most enterprises see cloud computing as their primary security risk, ranking cloud concerns above employee mobile device usage or social networking attacks. Concerns with the cloud revolve around controlling access to data, maintaining regulatory compliance and data integrity, and commingling of corporate data on shared servers. Despite the security concerns, however, 83% of respondents said their organizations intend to migrate more business processes to the cloud in the coming year, and 49% of those surveyed say that securing data in the cloud is their primary security spending priority.

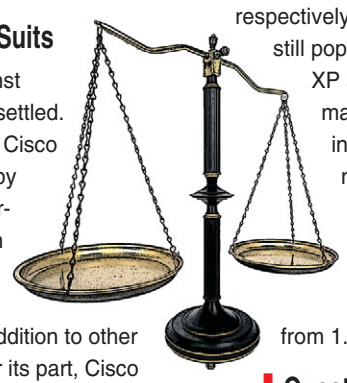
Intel Settles With FTC . . .

The Federal Trade Commission and Intel have agreed on a settlement in an antitrust complaint that charged Intel with illegally using its dominant market position to stifle competition. The settlement prohibits Intel from giving computer manufacturers benefits for exclusively using Intel chips. It also prohibits the chip maker from retaliating against manufacturers that buy chips from other suppliers or from redesigning its chips for the sole purpose of harming a competitor. The settlement also requires Intel to set up a $10 million fund that will allow software vendors to reconfigure their products so that they perform better on chips made by other manufacturers.

. . . & Sidesteps Antitrust Class Action Suit

Although it ended up settling with the FTC over antitrust charges, Intel came away with a win in a different antitrust matter. Vincent J. Poppiti, the special master in charge of almost 80 class action suits filed against Intel, advised that the lawsuits should not be certified as a class action, which will likely lead to the cases' dismissal. The recommendation came after it was determined that it would be too difficult to identify which consumers overpaid for Intel-based computers during the time period in question, if any.

Cisco, Multiven Settle Suits



A 2008 lawsuit brought against Cisco by Multiven has been settled. In the suit, Multiven accused Cisco of discouraging competition by requiring its customers to purchase a SMARTnet device in order to gain access to vital bug fixes, patches, and updates for its software, in addition to other anticompetitive behavior. For its part, Cisco claimed that other companies had been providing software updates for Cisco equipment and that its customer's were not forced to purchase SMARTnet. Cisco countersued Multiven, but both parties have now dropped their claims and agreed to pay their own legal fees. Further details of the settlement were sealed.

Internet Explorer Gains Market Share

For the second straight month, Microsoft's Internet Explorer posted a gain in the Web browser market, according to Net Applications. With 60.74% of the market, IE easily outpaced its closest competitor, Firefox, which holds 22.91% of the market. The uptick in IE use is a change from the past year, where the browser lost ground every month and eventually dropped to 59.75%. In July, both Firefox and Chrome lost a bit of ground, with Firefox losing 0.9% and Chrome losing 0.08%; conversely, Safari and Opera both increased their respective market shares from 4.85% to 5.09% and 2.27% to 2.45%, respectively.

Windows 7 Surpasses Windows Vista

According to Net Applications, Windows 7's percentage of the operating system market exceeded that of Windows Vista for the first time in July 2010. In June, Vista held 14.68% of the market to Win7's 13.7%; in July, however, the numbers were 14.34% and 14.46%, respectively. Meanwhile, Microsoft's older but still popular operating system Windows XP still commands 61.78% of the market. Altogether, Windows operating systems claim 91.32% of the market. Apple's Mac OS X has just 5.06% of the market and actually saw a slight dip from June (5.16%). Linux operating systems claim just 0.93%, down from 1.07% in June 2010.

Quest Software To Buy Surgient

Quest has announced plans to acquire private cloud software developer Surgient of Austin, Texas. The patented Surgient Automation Platform for deployment, management, and automation of private cloud computing infrastructure will become a key component of the virtualization management software vendor's lineup, which includes Foglight and Vizioncore, Quest says. Already deployed in 160 locations, the platform enables IaaS (infrastructure-as-a-service) implementations, dynamic workload migration, and system provisioning within organizations. The deal is expected to be finalized within the third quarter of this year. Quest Software is headquartered in Aliso Viejo, Calif.

HP Settles DoJ Investigation, Suits

HP has agreed in principle to settle with the Department of Justice over an investigation of its GSA Multiple Award Schedule contract and allegations related to a complaint originally filed by former Accenture executive Norman Rille, the company said in a press release. The crux of the legal matters was the question of whether HP, among others, paid millions of dollars to influence systems integrators in order to receive preferential treatment regarding contracts with the government. Although it admits no wrongdoing, HP says it will accept a one-time charge of 2 cents per share against its third-quarter results to settle in full.

New Guidelines For Full Virtualization

The NIST (National Institute of Standards and Technology) released a new set of guidelines that covers common security concerns with technology when implementing full virtualization. In its "Guide to Security for Full Virtualization Technologies," NIST's suggestions are designed to help companies take full advantage of virtualization to increase efficiency and reduce costs. NIST indicates that most performance and security problems can be traced back to the planning or management controls set in the initial stages of the virtualization project, so data centers and organizations should carefully consider security when planning the installation and configuration of the system.

WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 13 major companies in the technology market.

Company	Symbol	Year Ago	July 22 $	Aug. 5 $	% change from previous issue
AMD	AMD	$3.69	$7.61	$7.50	▼ 1.45%
CA Technologies	CA	$21.53	$19.10	$19.79	▲ 3.61%
Cisco Systems	CSCO	$22.31	$23.27	$24.17	▲ 3.87%
Dell	DELL	$13.16	$13.40	$13.13	▼ 2.01%
Google	GOOG	$450.36	$484.81	$508.10	▲ 4.8%
HP	HPQ	$42.21	$46.07	$46.35	▲ 0.61%
IBM	IBM	$117.38	$127.47	$131.83	▲ 3.42%
Intel	INTC	$18.70	$21.78	$20.67	▼ 5.1%
McAfee	MFE	$42.73	$31.58	$32.51	▲ 2.94%
Microsoft	MSFT	$23.46	$25.84	$25.37	▼ 1.82%
Oracle	ORCL	$21.21	$24.31	$24.29	▼ 0.08%
Red Hat Software	RHT	$21.93	$32.34	$33.25	▲ 2.81%
Symantec	SYMC	$15.27	$15.19	$13.09	▼ 13.82%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

News

Report Examines Cloud Computing Usage Numbers

Mimecast polled more than 500 IT decision makers in the United States and UK and found that 51% now use some form of cloud computing, up from 36% in Mimecast's 2009 survey. Additionally, 66% of respondents are considering increasing or starting cloud computing services, and the United States was ahead of the UK (70% to 60%) in the percentage of respondents who were considering cloud computing services. Of the available cloud computing services, security and storage were the most popular with large enterprises, while email was most popular with midsized companies.

Majority Of iPhone 4 Customers Are Satisfied

According to a recent report from research firm ChangeWave, the majority of iPhone 4 users are "very satisfied" with their phones, despite widespread coverage of antenna-related problems with the new devices. Almost one-third of respondents said that the new phone exceeded their expectations, while half said that it met expectations. In spite of the positive survey results, analysts note that the overall satisfaction ratings of the iPhone 4 actually fall short of the ratings for the iPhone 3GS: 82% of users of that device reported being "very satisfied" with it and 17% reported being "somewhat satisfied."

Amazon Web Services Revenue May Top $500 Million This Year

Amazon.com's cloud computing division is experiencing record growth as more and more companies look to move mission-critical functionalities to the cloud. The AWS (Amazon Web Services) group includes 12 separate storage, application, and development offerings, but precise revenue figures have been hard to come by because Amazon doesn't break AWS revenues out; instead, it lumps them into the "other revenues" figure. However, UBS Investment Research analysts have predicted that AWS revenue will hit $500 million in 2010 and about $750 million in 2011. The numbers, though indicative of impressive growth, remain insignificant compared to Amazon's overall revenues, which this year exceeded $6.5 billion.

IBM Acquires Data Compression Provider Storwize

IBM announced plans in late July to acquire Storwize, a Marlborough, Mass.,-based provider of real-time data compression technology that helps clients significantly reduce physical storage requirements. IBM says that beyond improving efficiency, the technology lowers the cost of making data available to other applications and for analytics. Additionally, the technology can compress multiple types of data in real time, including files, virtualization images, and databases. Storwize's customers include companies in the energy, manufacturing, finance, insurance, telecommunications, and cloud service sectors. The acquisition is to be completed in Q3 2010; IBM didn't disclose financial terms.

Uniloc Sues Sony, McAfee, Quark & Others

Uniloc, a California-based company that previously sued Microsoft for patent infringement, has filed lawsuits against Sony, McAfee, Activision, Quark, Borland Software, and Aspyr Media in a U.S. District Court in Texas. Uniloc is alleging that the companies violated its patent relating to registration and activation software. According to Uniloc, its patented technology "creates a unique fingerprint based on the naturally occurring, inherent physical characteristics of any computing device so that no two digital devices are seen as identical." Uniloc initially won a decision against Microsoft worth almost $450 million in a Rhode Island district court last year concerning similar patent infringement allegations. The decision was later overturned, and Uniloc is currently in the process of appealing.

United States Questions China's Tech Policies

The latest U.S. Chamber of Commerce report states that the United States is concerned about China's policies regarding new homegrown industries and warns China it could be abusing its market pull of tech company transfers. The new report is the next in a series of official complaints about China's federal and commercial policies regarding technological innovation; other letters came from the Business Software Alliance, Consumer Electronics Association, National Association of Manufacturers, Tech America, and more than 12 other groups. The U.S. International Trade Commission is also investigating China's perceived plan to threaten U.S. firms, an investigation requested by the U.S. Senate Committee on Finance.

Salesforce.com, Microsoft Settle Patent Dispute

Microsoft, which originally filed suit against Salesforce.com over a cloud computing dispute concerning software efficiency patents, has settled its infringement case with the San Francisco-based company. Salesforce.com retaliated against Microsoft's original suit, claiming its .NET and SharePoint technologies violated patents Salesforce.com holds, but the smaller company has agreed to compensate Microsoft based on the strength of the tech giant's software portfolio. Microsoft's aggressive pattern of licensing out its own patents has led the company to form more than 600 licensing agreements with companies such as Apple, HP, and Samsung.

Rise In Online Health Research

More people than ever before are using the Internet to search for health-related information, according to results from a Harris Interactive poll. The study found that the number of people using the Internet to learn about health issues rose from 154 million in 2009 to 175 million this year. Harris says that the number of people who use the Internet—79%—has not changed significantly over the years, but the percentage of those individuals who go online for health research

increased to 88%. Harris calls these individuals "cyberchondriacs" and says that 81% of them said they went online in the last month for health research, while 17% said they have searched the Internet 10 or more times in the past month.

Cisco Cites Changing Security Landscape

Virtualization, the growing use of social networking, and an increase in the number of network-connected mobile devices are altering the security landscape, and enterprises must react quickly to protect themselves. In conducting its "2010 Midyear Security Report," Cisco found that 50% of end users say that they ignore company policies prohibiting the use of social media and log in to such sites at least once a week, and 27% change settings on corporate devices so they can access prohibited applications. Cybercriminals, including terrorists, are increasingly using social networks to wreak havoc and are targeting legitimate Web sites with strategically timed multivector spam attacks. In addition, Cisco says it expects spam volume to grow by as much as 30% this year.

Outsourcing Growth Slows In Second Quarter

After a surge in outsourcing contracts during the fourth quarter of 2009 and first quarter of this year, the TCV (total contract value) of IT outsourcing activity dropped 30% in the second quarter, according to the TPI Index. In announcing results of the index, Mark Mayo, partner and president of TPI Global Operations, says the overall industry picture for the remainder of the year is cautious, with a "modest" third quarter expected. The Americas experienced the best first-half performance in TCV since 2006, up 30% primarily because of activity in the United States.

Mobile Broadband To Expand

A new report from Pyramid Research and Heavy Reading expect the global mobile broadband market to expand to 1 billion connections by 2012. According to Pyramid, the driving forces behind the rapid growth are smartphones and cellular modems that let users consume more

bandwidth-hungry content such as video and applications. A second report from ABI Research claims that mobile data usage is growing rapidly but revenues aren't keeping pace. ABI reports that data usage in North America will increase at a compound annual growth rate of 55%, but mobile data revenues will only grow at a CAGR of about 18%. For this year, ABI estimates that the average mobile data user in North America will consume 159MB of data.

Study Looks At Online Activity

There's been a shakeup in the ranks: According to a new Nielsen survey, people now spend more time on social networking and gaming online than they do on email. In June 2009, Nielsen's survey of American Internet users revealed that visiting social networking Web sites accounted for 15.8% of our time spent online, email accounted for 11.5%, and online gaming accounted for 9.3%. As of June 2010, however, social networking usage grew to consume 22.7% of our time; online gaming supplanted email, consuming 10.2% of our time; and email-related activities fell to 8.3%. The latest survey also ranked the time we spent on portals, instant messaging, videos, and search, which consumed 4.4%, 4%, 3.9%, and 3.5% of our total time spent online, respectively.

Justice Department Suing Oracle

The U.S. Department of Justice is suing Oracle on charges of defrauding the government in a multimillion-dollar contract. The lawsuit states that Oracle deliberately avoided telling the government about substantial discounts that were available to the company's most important customers in order to charge the government higher rates. The original contract was negotiated between Oracle and the General Services Administration in 1998 and it was upheld until 2006. Paul Frascella, who worked for Oracle while the government contract was active, filed the suit under the False Claims Act, which would give Frascella a reward for being the whistleblower.

Motorola Reports Q2 Profits

Motorola reported second-quarter profits of $162 million, which is more than 600% higher than the same quarter last year, when the company posted $26 million. Aiding in the profit jump were gains in its smartphone business, with the biggest help coming from the Motorola Droid. Compared to the same quarter last year, its mobile devices segment decreased in sales by 6%. The Enterprise Mobility Solutions segment was the only one of four key Motorola segments to experience growth, increasing sales by 10%. Motorola anticipates profits for the third quarter of 2010, with estimated shares from 10 cents to 12 cents per share.

Upcoming IT Events

Are you looking to learn more about data center or IT topics? Network with some of your peers? Consider joining a group of data center professionals. If you have an event you'd like listed, please send an email to feedback@processor.com.

- AUGUST -

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Springfield, Mo.
aitpspringfield.org

ISSA St. Louis Chapter
Aug. 17
St. Louis, Mo.
stl.issa.org

Oklahoma City AITP Chapter
Aug. 17
Oklahoma City, Okla.
www.aitp.org/organization/chapters/chapterhome.jsp?chapter=40

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1001 Keys Drive #100
Greensville, S.C.
www.upstate-issa.org

AITP Tarheel
Aug. 23
4290 Mashie Drive
Pfafftown, N.C.
www.aitp.org/organization/chapters/chapterhome.jsp?chapter=295

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Aug. 23
3920 SW Camden Circle
Ankeny, Iowa
www.issa-desmoines.org

ISSA Baltimore
Aug. 25, 4:30 p.m.
Sparta Inc.
7110 Samuel Morse Drive, Suite 200
Columbia, Md.
www.issa-balt.org

ISSA Inland Empire
Aug. 31, 11:30 a.m.
Coco's Restaurant and Bakery
60 West Foothill Blvd.
Upland, Calif.
ie.issa.org

- SEPTEMBER -

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Sept. 8
Wheeling, W.Va.
www.aitp-wheeling.org

ISSA Central Pennsylvania
Sept. 8
Harrisburg University of Science and Technology
326 Market St.
Harrisburg, Pa.
centralpenn.issa.org

ISSA San Diego
Sept. 8
San Diego, Calif.
www.sdissa.org

Southern New England SQL Server User's Group
Sept. 8
www.snessug.com

AITP Washington D.C.
Sept. 9, 6:30 p.m.
Alfio's Restaurant
4515 Willard Ave.
Chevy Chase, Md.
aitpwashdc.ning.com

ISSA Northeast Ohio
Sept. 9
Cuyahoga County Library-Parma South
7335 Ridge Road
Parma, Ohio
www.neoissa.org

For more Upcoming IT Events, see page 10.

PRODUCT RELEASES

The *Processor* Product Releases section includes brief overviews of data center products.

All products listed have been released recently, so use this section to get up-to-date with what's new on the market and to find products you need.

Manufacturers:
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that data center/IT managers would be interested in learning about?

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PHYSICAL INFRASTRUCTURE

■ Emerson Network Power Avocent DSView 3, Liebert MPX & MPH Integration

Emerson Network Power announced that the Avocent DSView 3 and Avocent Power Manager plug-in now support the Liebert MPX and MPH rack PDU product lines. This combination of solutions allows for alarms, notifications, metering, real-time monitoring, and management capabilities. It also enables expanded data center remote access, Emerson says.

■ HP Flexible Data Center

HP introduced the HP Flexible Data Center, which provides a standardized, modular mechanism for the design and construction of data centers. The product is designed to conserve resources and reduce capital outlay while maintaining flexibility and scalability. The Flexible Data Center includes prefabricated components and a modular design with specific configurations aimed at optimizing the use of power and cooling resources.

■ PureChoice PureTrac

PureChoice is now offering the PureTrac software data collection system. The Web-based software lets administrators monitor air quality in real time and notifies users if carbon dioxide, monoxide, ozone, temperature, or humidity levels fall outside acceptable parameters. PureTrak software can be implemented in both old and new architecture to support mechanical operations.

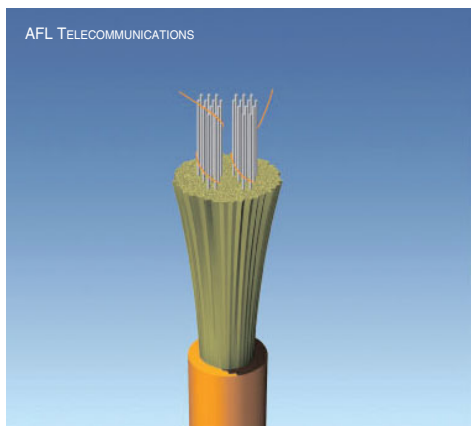
■ Raritan Dominion KX II 2.3

Raritan announced Release 2.3 of its Dominion KX II KVM over IP switch, which it claims has the industry's highest resolution and level of security. The switch supports 1,920 x 1,080 resolution and has FIPS 140-2 certification for its embedded encryption module. The switch also includes a dual computer interface module.

NETWORKING & VPN

■ AFL Telecommunications Interconnect Premise MicroCore

AFL Telecommunications has expanded its line of high-density fiber optic Interconnect Premise MicroCore cables to now encompass up to 48 optical fibers in one package. Now sporting an overall diameter of 4.8mm, the interconnect cable is about 20% smaller than similar products from competitors, the company states, and is well suited for use with high-density, array-type MT/MP connectors. AFL says integrating the all-dielectric strength members within the cable's



core allows for direct termination schemes to eliminate the need for large transitions that take up valuable space. Further, the cable's round construction removes concerns related to preferential bend radii in traditional premise-stacked ribbon designs.

■ Cisco & NetApp Fibre Channel Over Ethernet

Cisco, in collaboration with NetApp, launched an end-to-end FCoE (Fibre Channel over Ethernet) solution that's designed for VMware-virtualized environments. The offering is capable of supporting data center consolidation, virtualization, and automation using fewer devices and cables. The offering consists of VMware-validated Cisco data center switches and NetApp storage FCoE solutions.

■ Firetide MIMO 802.11n HotPort 7000

Firetide has released the MIMO 802.11n HotPort 7000 product line with FIPS 140-2 certification included. Firetide says the product is the first of its kind on the market to provide security, reliability, and throughput that's comparable to 300Mbps outdoor/400Mbps indoor. The release uses a distributed Ethernet switch-based architecture and patented flow-based routing protocol foundation.

■ GFI Software GFI MAX RemoteManagement, Take Control

GFI Software announced that GFI MAX RemoteManagement now includes Take Control, which is designed to deliver quick and easy secure remote access and user assistance. Thanks to its monitoring and management, inventory tracking, and automated server and desktop maintenance tools, the software also enables IT personnel to more easily manage customers' servers, desktops, networks, hardware, and software.

■ Kofax Communication Server 9.0

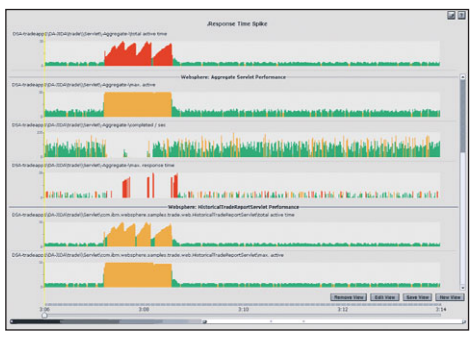
Kofax has introduced version 9.0 of Kofax Communication Server, designed to automate the receipt, exchange, and output of business-critical information between applications, devices, and people. Its new features lessen the manual, slow, and error-prone processes generally associated with sending and receiving large volumes of data (including

KOFAX

documents and messages) to better the integration of inbound and outbound communications. Version 9.0 also includes an updated Web Monitoring Interface, full Microsoft system support, native Kofax Capture integration, better backup and recovery, and next-generation IP support. Additionally, KCS 9.0 now offers SAP and Cisco IP PABX certification.

■ OPNET Technologies OPNET Panorama 7.0

OPNET Technologies announced version 7.0 of OPNET Panorama; the release provides functionality and usability enhancements for OPNET's application performance management suite. OPNET Panorama continuously monitors



OPNET Technologies

business-critical applications, providing real-time, in-depth visibility across all servers in the application environment. Version 7.0 further cements the integration between two of OPNET's key APM solutions, ACE Live and Panorama. Panorama now incorporates the user interface first introduced with ACE Live, making combined workflows between the solutions more intuitive to the user. Additionally, Panorama 7.0 delivers more powerful and interactive workflows, allowing users to use the underlying database of performance information more effectively.

■ Oracle Utilities Network Management System 1.10.0

Oracle unveiled the latest version of the Oracle Utilities Network Management System, which is a utility-centric security platform. Version 1.10.0 includes smart grid and security enhancements, database transactions, and user authentication. Oracle's offering also provides users enhanced damage assessments, expanded outage management alerts, and switching and Volt/VAR optimization tips.

■ Quest Software Identity Manager For Unix

Quest Software announced Identity Manager for Unix, a freeware tool designed to streamline user and group management for Unix/Linux/Mac users and check readiness for advanced functionality. Features include a single, centralized Web-based console for creating and deleting user accounts as well as easy reporting and a bird's-eye view of all systems and users.

■ Riverbed Technology Virtual Steelhead

Riverbed Technology announced the release of Virtual Steelhead, a virtualized version of its Steelhead WAN optimization appliance. Virtual Steelhead is designed to work in ruggedized, space limited, and heavily virtualized environments in addition to regular data center environments. Along with other products in the Steelhead family, including physical, mobile, and virtual solutions, companies can accelerate the speed of their applications and data no matter the location. Virtual Steelhead was built for the VMware vSphere platform, and it can be customized to multiple configurations including up to the equivalent of a Steelhead 2050H model appliance.

STORAGE

■ CharTec Backup Disaster Recovery Appliance

CharTec announced its BDR (Backup Disaster Recovery) appliance for Intel-based servers. BDR offers backup, disaster recovery, and replication of virtual images to the cloud. The appliance helps eliminate client risk and downtime; accelerates server recovery, management, and deployment; and reduces service delivery costs.

■ Dynamic Solutions International DSI9003 Version 2.1

Dynamic Solutions International released the DSI9003 (version 2.1), the next generation of its Virtual Tape Library product. Primary features of the DSI9003 include 4GB FC and iSCSI attachment, GUI management, scalability up to 48TB of raw capacity, and support for 64,000 virtual cartridges. The DSI9003 series includes the DSI9253-V and DSI9303-D.

■ EMC Data Domain DD670

EMC released the EMC Data Domain DD670, a midrange deduplication storage system for the Data Domain product line. It incorporates the Nehalem-based Intel Xeon Processor 5500 Series and is designed to be twice as fast as midrange competitors using recently released EMC Data Domain Boost software.

■ Iron Mountain EMR Enablement Solution

Iron Mountain announced the Iron Mountain EMR Enablement Solution, which combines document scanning, file archiving, and data backup for healthcare organizations converting hardcopy patient files into electronic medical records. The service helps hospitals identify which records to digitize and which to destroy and includes compliant and secure cloud-based archiving and disaster-recovery capabilities.

■ LaCie 12big Rack Fibre 8

LaCie announced LaCie 12big Rack Fibre 8, an addition to its 12big Rack portfolio that features 8Gbps Fibre Channel connection and dual controllers. Designed for post-production environments and performance-demanding IT applications, the faster edition supports speeds up to 1,200MBps with 12 drives and includes

PRODUCT RELEASES

two power supplies and two hot-swappable cooling units.

■ Lexar Media 128GB Echo SE

Lexar Media announced the latest addition to its Echo family of portable backup drives, the 128GB Echo SE. Ideally suited to the demands of securing valuable data on netbooks and notebooks, the Echo SE is actually the size of a standard USB thumb drive. The Echo SE is also available in 16GB, 32GB, and 64GB capacities. When connected to a PC, the inconspicuous Echo SE can automatically back up data with read speeds up to 28MBps and write speeds up to 10MBps. The latest Echo SE is fully compatible with Windows XP, Vista, Windows 7, and Mac OS X. The drive ships with Dmailer's backup software. Other features include targeted file backup, file versioning, and optional 128-bit AES encryption.

■ Nimbus Data Systems S1000

Nimbus Data Systems released the S1000 enterprise flash system ($99,995) that supports 10TB of SSD storage per shelf and up to 250TB in one system. Additonally, Nimbus' FlexConnect technology ($9,995) features triple active 10 GbE network controllers. FlexConnet utilizes a virtual switch using 12 10GbE ports that can run iSCSI, CIFS, and NFS protocols.

■ Oracle StorageTek SL8500 Modular Library System

Oracle announced additional features to the StorageTek SL8500 Modular Library System. Enhancements include an increase in scalable capacity; an upgrade from 70,000 to 100,000 tape slots; and redundant electronics to help manage growth, increase availability, and reduce risk. The system offers tape consolidation across multiple heterogeneous systems with online service and per-slot mixing of media.

■ Overland Storage NEO 8000e

The NEO 8000e tape library is an LTO-5 enterprise backup system with support for up to 3PB of storage with up to 1,000 cartridges and 24 tape drives. The system is also compatible with LTO-4. Transfer rates can range up to 24TB per hour, according to Overland. The NEO 8000e sells for $47,999.

■ Overland Storage SnapServer N2000

Overland Storage introduced SnapServer N2000, a unified block and file storage solution scalable up to 144TB in a compact 2U form factor. The storage is fully integrated with Microsoft Windows and is designed for virtualized server environments running VMware, Hyper-V, and Citrix XenServer. SnapServer N2000 provides a feature set including replication and snapshot capabilities for file and iSCSI volumes. Features include storage management, which lets administrators monitor and manage all SnapServer NAS and SAN systems remotely or locally from a single, browser-based interface; capacity expansion; disaster recovery; Windows and Unix integration; and redundancy for reliability. Pricing for the SnapServer N2000 starts at $4,999.

■ SPYRUS Hydra Privacy Card USB Flash Drives

SPYRUS announced Linux and Mac support for its line of Hydra Privacy Card USB flash drives. These drives are protected by hardware-based XTS-AES 256-bit encryption and use Rosetta Micro FIPS 140-2 Level 3 validated hardware security modules. Also, three-person control can be used so multiple systems can access the drive.

■ StoreIQ eDiscoveryManager 6.0

StoreIQ announced version 6.0 of its eDiscoveryManager, which is designed to address a wide range of legal discovery requirements. Version 6.0 of eDiscovery integrates with the StoredIQ platform to give legal teams a single solution to make more informed, strategic decisions, which will also cut the cost of litigation and reduce legal risk.

■ Tandberg Data RDX 1TB

Tandberg's RDX format of removable storage now comes in a 1TB cartridge for use in the company's RDX QuikStor system for small and medium-sized enterprises. When used with bundled AccuGuard deduplication and backup software, the $485 cartridge can hold up to 20TB, the company says.

■ Xiotech Emprise 9000, ISE Manager & ISE Analyzer

Xiotech announced a set of products that take the power of the company's ISE (Intelligent Storage Element) storage system and tailor it for the internal enterprise service provider. The set includes the Emprise 9000 storage system, ISE Manager software, and ISE Analyzer software, which are designed to optimize performance-starved applications across a fully shared data center infrastructure.

■ Xyratex HDD Portfolio

Xyratex announced a product portfolio expansion that will add hard disk drive recording head slider and head gimbal assembly automation as well as metrology equipment. The expansion coincides with the acquisition of OSC (Optical Systems Corp.), a company that provides automated hard disk drive production technology. Xyratex will combine OSC's expertise with its own history with high-volume disk drive tests; servo writing; and media cleaning, handling, and inspection technologies. The company plans to get into the disk drive head, media, and substrate markets and work with hard drive and component manufacturers.

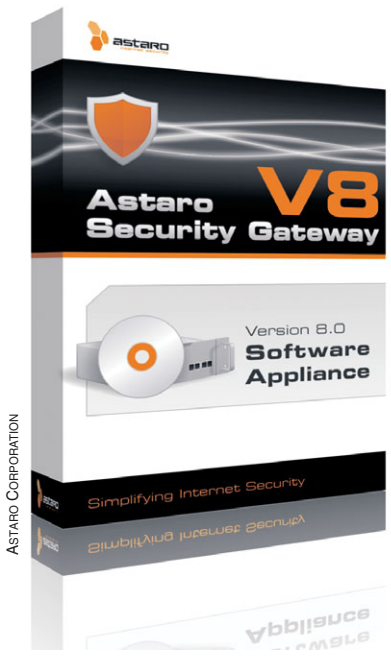
SECURITY

■ Absolute Geolocation For LoJack Laptops

Absolute launched the latest functionalities for its LoJack for Laptops subscriptions. The features include geolocation that lets users track their computer on an Internet-based map; Device Freeze, which lets users freeze their computer if it is lost; and Remote Data Delete, which lets users delete a preset group of files or folders.

■ Astaro Web Application Security

Astaro released Astaro Web Application Security for protection against viruses or malware. Astaro Web Application Security defends Outlook Web Access and other applications from SQL injections and cross-site scripting. This release adds updated features to Astaro Security Gateway, including the Web Application Firewall, URL hardening, cookie signing, and dual antivirus



Astaro Corporation

scanning. URL hardening requires visitors to use a digital URL signing architecture. Dual antivirus scanning assesses and blocks harmful content before it enters or leaves the network. Cookie protection keeps malicious users from editing information on a vulnerable server. The Web Application Firewall uses manual configuration menus to minimize operational risks.

■ Barracuda Web Application Firewall

Barracuda Networks announced that it is adding integration features to its Web Application Firewall, which protects Web apps and services from malicious attacks. The features extend centralization of front-end access controls, simplify the management of production Web applications, and increase security for networks and assets.

■ Comodo EndPoint Security Manager 1.6

Comodo announced EndPoint Security Manager 1.6, which lets network administrators centrally manage Comodo security products such as Comodo Disk Encryption and Comodo Internet Security. The software includes a localized interface, compatibility with Windows Domain Controllers, and the ability to reconfigure CIS on endpoint machines without logging in to the local machine.

■ Dell KACE Secure Browser

Dell KACE announced its Secure Browser, a tool that uses application virtualization to protect against attacks while browsing the Web. The browser package includes the Firefox browser, along with preinstalled Adobe Reader and Flash plug-ins. The free browser tool is available on Kace's Web site.

■ Dell Security Solution Portfolio

Dell released a security solution portfolio for midsized enterprises and organizations that is designed to protect IT infrastructure and data. The security solutions secure enterprises from internal and external attacks and provide proactive and reactive IT security. The portfolio contains multiple layers composed of four solution areas, including network security, endpoint security, user security, and security services.

■ Global DataGuard Detection + Prevention Module & Behavioral Correlation Module

Global DataGuard has released its latest 10Gb security devices for high-speed networks: the DPM (Detection + Prevention Module) and the BCM (Behavioral Correlation Module). The DPM solution analyzes raw packet data, blocks customer-defined threats, and monitors suspicious employee activity. BCM identifies extended network traffic and guards against unknown and zero-day attacks.

■ McAfee Risk Management Solution

McAfee announced the Risk Management solution, which offers both real-time intelligence and global vulnerability scanning across applications, databases, and networks. The solution connects such threats with your security measures to find the most critical threats. McAfee's Risk Management solution consists of Risk Advisor 2.5, Vulnerability Manager 7.0, and the Vulnerability Manager for Databases.

■ WatchGuard Technologies XCS 170, 370 & 570

WatchGuard Technologies upgraded its XCS 170, 370, and 570 security appliances to offer enterprise-grade Web-blocking security features along with email, data-loss, spam, virus, spyware, and malware protection. WatchGuard is also reducing annual Web Security subscriptions for XCS 770, 970, and 1170 appliances and cutting pricing on XCS 370, 570, and 770 message appliances by up to 20%.

■ Zscaler

Zscaler announced that its Zscaler service will now offer fully integrated email security into its existing Web security portfolio. Zscaler offers enterprises cloud-delivered services that protect against most Internet-based risks, and it also consolidates multiple point products, simplifies IT administration, and increases security while reducing costs and risk to the business.

MESSAGING & TELEPHONY

■ Polycom UC Intelligent Core

Polycom unveiled its updated UC Intelligent Core, which is a visual communications infrastructure platform. Features include support for bandwidth-saving H.264 High Profile and bridge resource virtualization. The RMX release 7.0 and DMA 7000 release 2.2 will be available this quarter. The RMX 1500, also available this quarter, is priced starting at $43,000.

■ Zultys MXmeeting 4.2

Zultys released an updated version of its MXmeeting collaboration product. MXmeeting 4.2 adds four-way videoconferencing and a number of additional features aimed at making the product a compelling and cost-effective alternative to travel. In addition to supporting four Web cams in one room, this release adds enhanced Outlook integration and improves speed. Webinar polling, appliance clustering, and access (in the United States and Canada) to a 250-port voice conferencing solution are also included. MXmeeting can be implemented by adding an appliance to an existing MX250 or MX30 PBX and is available in four scaled tiers for two, 20, 50, or 200 meeting rooms.

SERVERS

■ Fujitsu Primergy TX100 S2

Fujitsu states its Primergy TX100 S2 entry-level server includes energy-efficient features at the price of a PC, making

Go to Page 6

PRODUCT RELEASES

Continued from Page 5

it ideal for SMEs looking to better productivity by consolidating various IT tasks. Zero-Watt technology lets the server draw 0.0W when turned off to reduce power consumption and heat output while also protecting from overnight and weekend external attacks.

■ IBM zEnterprise

IBM released the zEnterprise mainframe server, which it calls the most powerful and energy-efficient mainframe ever. The company also announced a systems design that lets mainframe, Power7, and System x server workloads share resources and one virtualized system manage them. The systems design combines the zEnterprise server with zEnterprise BladeCenter Extension and zEnterprise Unified Resource Manager technology.

■ Lenovo ThinkServer RD230, RD240, TD230

Lenovo released a family of dual-Xeon servers toward growing enterprises, managed service providers, and branch offices. The budget-priced systems

LENOVO

include rack server models, the ThinkServer RD230 ($999) and RD240 ($1,399). These units come standard with advanced RAID, Web-enabled remote management, DVD burners, and hot-swappable storage. The dual-PSU RD240 supports up to eight drives. On the tower server side is the TD230 ($829). This nearly silent model follows an Energy Star for Servers 1.0 design for power savings as well as performance. It's available in direct connect or hot swap configurations.

CLIENTS

■ Apple Mac Pro

Apple announced a line of Mac Pro computers that can be customized with up to 12 processing cores. The Mac Pros are capable of housing up to four 512GB SSDs and support quad-core and six-core Intel processors. Multiple configurations are available, and they will be released this month.

■ Kyocera Mita Security Solutions

Citing the need for enterprises to protect data in their networked printers, Kyocera has highlighted several security technologies incorporated into its product line. Included are the company's Data Security Kits, Secure Printing, PrintQ Manager Secure Job Release, API Cryptek Netgard MFD Smart Control, and AccessLock (Active Directory Authentication) features.

■ Next Generation Logistics FreightMaster Transportation Management System Suite

The 5.0 version of the FreightMaster Transportation Management System Suite from Next Generation Logistics enables companies of varying sizes to manage inbound and outbound freight at a cost-effective price. With a built-in interface for ALK PC-Miler, the TMS

NEXT GENERATION LOGISTICS

suite supports transportation 204, 990, 214, and 210 EDI transactions for single or multisite facilities. The primary benefits of TMS include carrier routing, carrier compliance, load consolidation, alert messaging, and online freight bill settlement. In addition, FreightMaster TMS offers automatic fuel surcharge updates, routing guide compliance, and SmartWaySM Tracking. TMS uses Active Directory for single-user authentication and is accessible via LAN, VPN, WAN, or terminal services. For more on this product, see page 43.

■ OKI Printing Solutions PH640 Series

OKI Printing Solutions announced its PH640 Series of hybrid PoS receipt printers. The printers come in four configurations: Ethernet, USB, serial, and parallel. They offer direct thermal printing methodology for receipts, nine-pin Impact Dot Matrix for check printing, 203dpi resolution, two-color printing capability, and 2D barcode printing.

■ Oracle Pedigree & Serialization Manager

Oracle has unveiled the Oracle Pedigree and Serialization Manager, an integrated mass-serialization and pedigree application that improves supply chain integrity in the pharmaceutical industry. With this program, pharmaceutical companies will have help complying with electronic pedigree initiatives and regulatory requirements while diminishing risks associated with drug counterfeiting and product diversion.

■ Oracle Service Bus 11g

Oracle introduced an enhancement for the Oracle SOA Suite 11g, the Oracle Service Bus 11g, which lets users make their complicated and unstable application architectures more resilient and customizable. Capabilities include service result cache, support for cloud integration, automated lifecycle service governance, and enhanced performance and availability.

■ Quest Software Foglight

Quest Software introduced several enhancements to Foglight, which is an application performance monitoring software package. In this edition of Foglight, the expanded User Experience Management capabilities provide businesses with the ability to manage online revenue and conversion rates in real time, as well as analyze trends in customer buying patterns and understand how application usability, performance, functionality, and content affect conversion rates.

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GREEN TECH & TIPS

Dark Data Centers: Just An Eco-Friendly Dream?

BY ROD SCHER

THE IDEA OF DARK DATA CENTERS is not new. A 1989 IDG Communications technology roundtable in Germany referred, somewhat wistfully, to the dark data center as "a distant dream," lamenting the inability of then-current technology to permit the creation of such centers.

Twenty-one years later, the dark data center is an increasingly viable strategy for technology infrastructure. Iron Mountain, which provides document management, archiving, and technology consulting services from offices around the world, serves as one example: The company touts "Room 48," its dark data center, infrequently staffed and equipped with motion-activated lighting. Iron Mountain's main data facilities are located underground in what was once a limestone mine in western Pennsylvania: cool, energy-efficient, and—quite literally—dark.

Of course, if you can't go dark, going "dim" may be almost as good—and perhaps more realistic.

The dim data center, one in which power and cooling is moved out of the server room while remote access mechanisms are used as much as possible to control and monitor systems, may be as close as most of us can (or need to) get to a truly dark data center.

Virtualization can also play a part in reducing the data center's energy footprint. A virtualized approach creates a consolidated—and therefore more efficient—data center environment: What once required multiple servers—each consuming energy, generating heat, and requiring maintenance—can often be accomplished with just one physical box, thus mitigating the equipment's impact and reducing its overall setup and maintenance requirements.

Impossibly High Expectations?

But there's another question to consider: What if the whole idea of dark data centers has been overhyped? In our zeal to create efficient and eco-friendly business processes, have we come to expect too much from the idea?

Gartner analyst and research director Bill Malik thinks so. He notes that the promise of the dark data center isn't always realized and feels that the idea is only now poised to exit the third phase of what Gartner refers to as the hype cycle, "the Trough of Disillusionment." After that, it will enter the more realistic "Slope of Enlightenment" phase, during which practical experimentation begins to take place, leading eventually to the point at which a technology finally begins to be productive.

In the '90s, Malik says, people spoke of dark data centers as being a panacea: "I go to zero headcount, and I have all of these amazing productivity numbers." Now, many people have begun to look more realistically at the technology. The discussion now, Malik says, "is not about a dark data center but about having a data center that has 'smart hands'—that is, one that makes use of a colocation or hosting vendor."

Malik points out that colocation is a type of (often cloud-based) outsourcing that is effective and cost-efficient because it consolidates data center activities offsite and thus eliminates some of the need for a dark data center in the first place. It requires manpower, but "that individual is covering many, many people's server farms, and that's all that that individual does, so labor cost is much smaller" than if each organization required a dedicated person.

Whichever approach turns out to be most realistic, the idea of dark, dim, or colocated data centers seems to lend credence to the notion that people, far from being superfluous, are as important as ever—but that their roles should largely be to envision, design, and test systems and processes, not to hang around in data centers ensuring that those processes are working. If your data center is constantly full of IT staff scurrying to resolve problems or avoid catastrophe, then that may be indicative of an entirely different—and perhaps more systemic—issue.

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COVER FOCUS

Communication Considerations

Evaluating Enterprise Needs Is Critical For Future VoIP & UC Success

by Christian Perry

• • •

WADING INTO THE COMPLEX WATERS of voice over IP and unified communications can be a harrowing experience if you don't come prepared. Smart organizations will step back and determine their communications needs from every possible angle before forging ahead with a VoIP or UC system, but that process demands a certain level of structure and diligence to ensure success.

"It's important for enterprises to first have a strong understanding of where their UC/VoIP challenges lie," says John Del Pizzo, program director for IBM's Unified Communication & Collaboration Software group. "From speaking with customers, these are commonly identified as slow business processes and response times; expensive travel; and complex, disparate technology platforms."

The process of evaluating VoIP and UC needs should also extend beyond the current point in time, as enterprises can be well-served by positioning potential systems against future business needs and goals. An overall effective evaluation plan will ultimately take a close look at existing infrastructure, the benefits desired from a VoIP or UC system, and the requirements of the business users.

Eye On The Network

According to Peter Eisengrein, senior vice president of network operations and design for Evolve IP (www.evolveip.net), it's essential to consider the impact to your LAN/WAN when considering any large-scale change, whether it's adding a VoIP system or adding a new enterprise application. After all, the network is the foundation for all of your communications, so it's important to ensure that it's in solid shape to avoid disappointing results with the change.

This network evaluation requires answers (from your IT staff or your data integrator) to several questions, he says. For example, is your physical cable capable of carrying 100Mbps? Is it at least CAT 5 or better through the building(s)? Are your network elements capable of carrying high-priority traffic, such as voice? Can the network be configured for QoS (quality of service)? What is your network's busy-hour utilization? What is your network topology—single-broadcast domain or is there logical separation? Do you have sufficient Internet bandwidth to support the additional voice traffic?

Though the condition and topology of the network is certainly key to determining what kind of system would work best, it's also critical to look at the users themselves. Jeremy Littlejohn, chief analyst with RISC Networks (www.riscnetworks.com), notes that analysis of needs for UC and VoIP systems typically falls to the IT or telecom group. However, those groups don't spend enough time collecting business intelligence about their users, so they're often left in the dark about what employees use to communicate—and, more importantly, why they use those tools.

"One indication of this is the fact that in well over 60% of the voice and video readiness analytics engagements that we run, the IT department does not want us to evaluate their Microsoft Windows environment. 'This is a network readiness assessment for voice; it doesn't have anything to do with our desktops' is their normal response," Littlejohn says. "They are flat-out wrong. UC and even VoIP have everything to do with their users' desktops, their servers, the applications in use, and the potential opportunities to transform the way a company communicates. These applications are the components that users interact with, not a router or a switch, and they must be part of the needs analysis."

CIOs, Littlejohn continues, must challenge any and all assumptions about VoIP/UC needs analysis that comes from IT. For example, he says, if IT says it requires presence, the CIO needs to ask why and how many users are currently using applications that provide that type of information. In many cases, the CIO and IT staff won't know the answer, so it's valuable to discover what apps are in use and spend some time talking to users of those apps to see how and why they use them. Most enterprises realize they need reliable dialtone service, but this analysis can help them determine whether they need desktop video, for example, Littlejohn explains.

"Think outside of the IT box," Littlejohn says. "Use a holistic approach and involve groups other than IT and telecom. And within IT, make sure that the project has C-level sponsorship. This allows the team that is doing the needs analysis the ability to access the information that is critical to success. Without this sharing of data, UC or VoIP becomes a network project and is destined to be a lukewarm success at best, and more likely, a failure."

Key Points

- Carefully analyze the potential impact of a VoIP or UC system to your current network infrastructure to determine if it can handle the increased voice and video traffic.
- CIOs should go beyond feedback from IT and ensure that users are polled to discover what types of communication applications are currently in use and how they're being used.
- To ensure that your needs analysis is a success, determine what benefits you ultimately want to realize from a VoIP or UC system.

> "Think outside of the IT box. Use a holistic approach and involve groups other than IT and telecom."
>
> *- RISC Networks' Jeremy Littlejohn*

Keep The Goal In Sight

IBM's Del Pizzo stresses that enterprises should keep in mind their end goal when analyzing their VoIP and/or UC needs. These systems can impart a wide range of benefits, but knowing which of these benefits is most important to the business and other factors of the organization is a fundamental part of determining exactly what technology is required.

For example, he explains, you can increase productivity through the use of collaborative environments, reduce costs by streamlining networks and network management support and improving communication capabilities, support a mobile workforce and distributed operations, improve customer service by transforming legacy call centers into multichannel contact centers, and drive new business processes and revenue streams by enabling enhanced communications. P

Be Inquisitive

Like needs analysis for other systems, evaluating VoIP and UC requirements typically boils down to a process of detailed information gathering. John Del Pizzo, program director for IBM's Unified Communication & Collaboration Software group, suggests finding answers to the following questions to help with the discovery process:

- What is your current telephony infrastructure? Is there a mix of PBX vendor types? Are there legacy phone systems and/or IP telephony?
- Do you prefer to standardize on one PBX vendor or multiple vendors?
- Will you migrate all at once, or would you prefer to migrate over time to IP telephony?
- How will you deliver a common set of functionality to users during migration?
- Do you want to build a centralized model, or does the organizational structure require decentralized implementations?
- What is the current state of the network? Can it handle the additional voice and video traffic?

ENCLOSURES & RACKS

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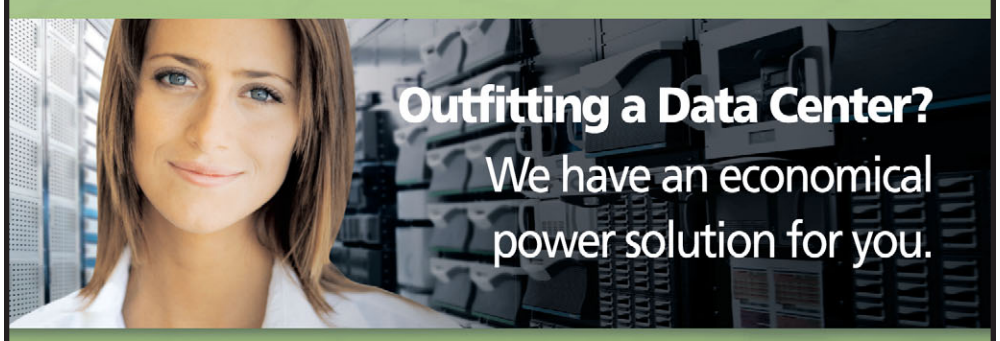

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Appleton, Wis.
new.aitp.org

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Face-To-Face Communications From Near Or Far

Tips For Setting Up A Successful Videoconferencing System

by Elizabeth Millard

• • •

With clients across the country—or the world—and travel budgets still tight, videoconferencing can be a boon to an enterprise's bottom line. Because the systems work in conjunction with other data center resources, it's up to an IT manager to make sure the correct system is chosen and put into place. Here are some tips for making sure that videoconferencing implementation goes smoothly.

Set The Stage

Before setting up a system, company requirements should be evaluated, and once the determinations are in place and a system is chosen, it's time to put the strategy and technology into action.

Before connecting the wires, the IT department needs to clearly communicate the strategy and expectations for videoconferencing to vendor partners, line-of-business managers, and anyone else who'll be using the system, notes Brian Kopf, manager of unified communications practice at CDW (www.cdw.com).

He says, "This will set the stage for internal adoption and give the [vendor] partners clear parameters in helping to design the right solution to address business needs." As part of gaining executive acceptance, Kopf suggests the creation of clearly defined ROI, which can help future upgrades down the line, as well.

IT managers should also plan training of all potential end users and provide mini-guidebooks, adds Frederic Hediard, vice president of product management at Streamcore (www.streamcore.com), a provider of appliances that manage interactive applications.

Another recommendation, he adds, is to provide means to easily book and schedule a videoconferencing room, perhaps through a Web application. "Ensuring a successful first usage is critical, especially because employees may have been frustrated by previous failed or poor videoconferencing experiences," Hediard says.

Network Considerations

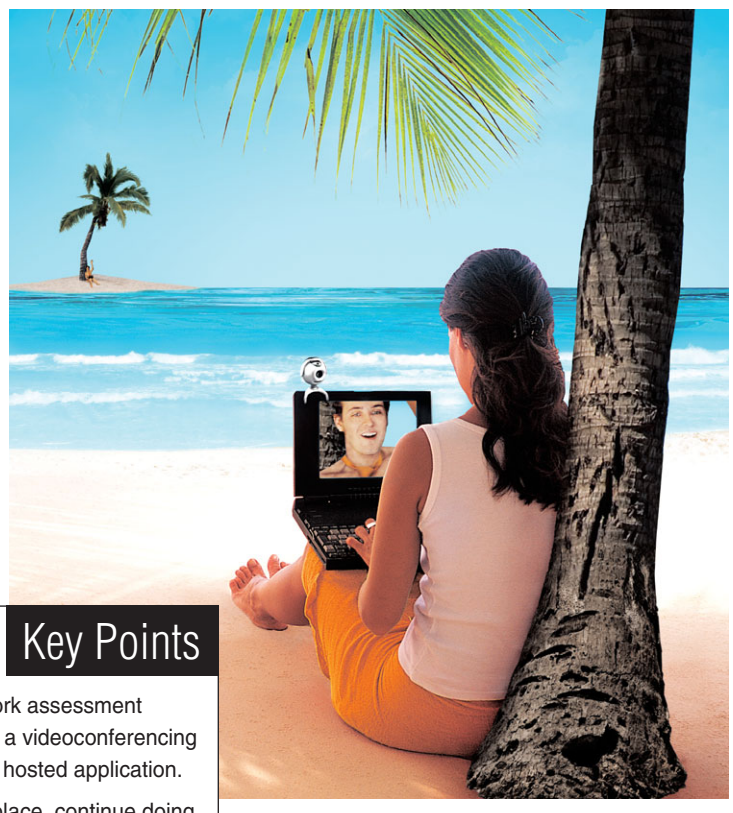
Part of setting up a successful videoconferencing system will be ensuring that the network is capable of supporting this new form of traffic. Kopf notes that videoconferencing can introduce a significant load onto a network and can affect QoS (quality of service) for other applications.

"Before embarking on a large-scale videoconferencing deployment, a network assessment is highly recommended to make sure your network is robust enough to support the additional load and has QoS enabled to prioritize traffic properly," he says.

Even if the system is hosted rather than in-house, the network will be heavily involved, especially if a range of content is shared. Grace Kim, senior marketing manager for the Collaboration Software Group at Cisco (www.cisco.com), notes that during meetings, users can actively collaborate, view each other's desktops, pass the presenter role back and forth, publicly and privately chat with other attendees, and record meetings for playback.

All these different components need to work well together, and a system with mobile application functionality introduces another level of interoperability because the system will have to be used on mobile devices.

Once a network assessment is complete, IT managers can determine if a bandwidth upgrade is required to handle the increased traffic or if they need to make better use of current bandwidth, Hediard says. He adds that ongoing assessment can be helpful after systems are deployed, too, to ensure that the WAN never degrades end-user quality of experience.



Key Points

- Do a thorough network assessment before implementing a videoconferencing system, even if it's a hosted application.
- After a system is in place, continue doing network assessments to spot WAN degradation issues.
- Create user education materials and make ongoing adoption a priority, because maximizing usage will lead to better ROI.

Next Steps

There are several best practices for deploying a videoconferencing solution once network readiness is assured. According to CDW's Kopf, here are a few solid strategies:

- Run a pilot in a production environment that's not mission-critical. This is especially important if videoconferencing is intended for use in executive-to-executive communication. "By testing in less 'visible' areas of the organization to get a feel for setup and operation, it will give you a chance to iron out the wrinkles before giving your CEO access," Kopf says.
- Document network and system settings for future deployments or for troubleshooting purposes.
- Implement videoconferencing end points that will fit the size of your room and/or audience. For example, if the unit is going into a large conference room, make sure that the camera has PTZ (pan-tilt-zoom) capabilities.
- Make sure that the codec can support multiple displays, several microphones, and maximum resolution of the displays. For instance, don't deploy 720p displays if the codec supports 1080p.

Planning Ahead

Just because a videoconferencing system is in place doesn't mean that users will embrace it, Kopf notes. In other words, just because you build it, that doesn't mean they'll come.

"Make sure to have a plan for driving adoption of the technology in users' day-to-day activities," he says. "After making the investment, maximizing usage is the most important way to realize the cost savings and productivity increases from the system."

Especially be mindful of taking care of systems that require a lot of bandwidth and are sensitive to latency, jitter, and packet loss, adds Hediard. IP network congestion can affect the user experience by causing distorted audio, blocked video stream, and other issues.

Even though some vendors have introduced very innovative technologies to lessen the impact of network packet loss, Hediard adds that SMEs should control the traffic and the quality of their WAN before and after videoconferencing installation in order to guarantee the best possible experience for employees. P

Interoperability Concerns

When setting up a videoconferencing system, the good news is that the technology has come a long way in the past couple of years, so the systems are easier to set up and use than ever, notes Frederic Hediard, vice president of product management at Streamcore (www.streamcore.com). However, there's one big remaining challenge: interoperability between systems from different vendors. Also, he adds, IT managers should be aware that sometimes issues crop up between different systems—for example, between an in-house system and one at a client location.

When doing setup, collect information from vendors, telecommuters, partner companies, and anyone else that might use the system and talk to the hosted videoconferencing provider or system vendor about any potential hiccups between systems.

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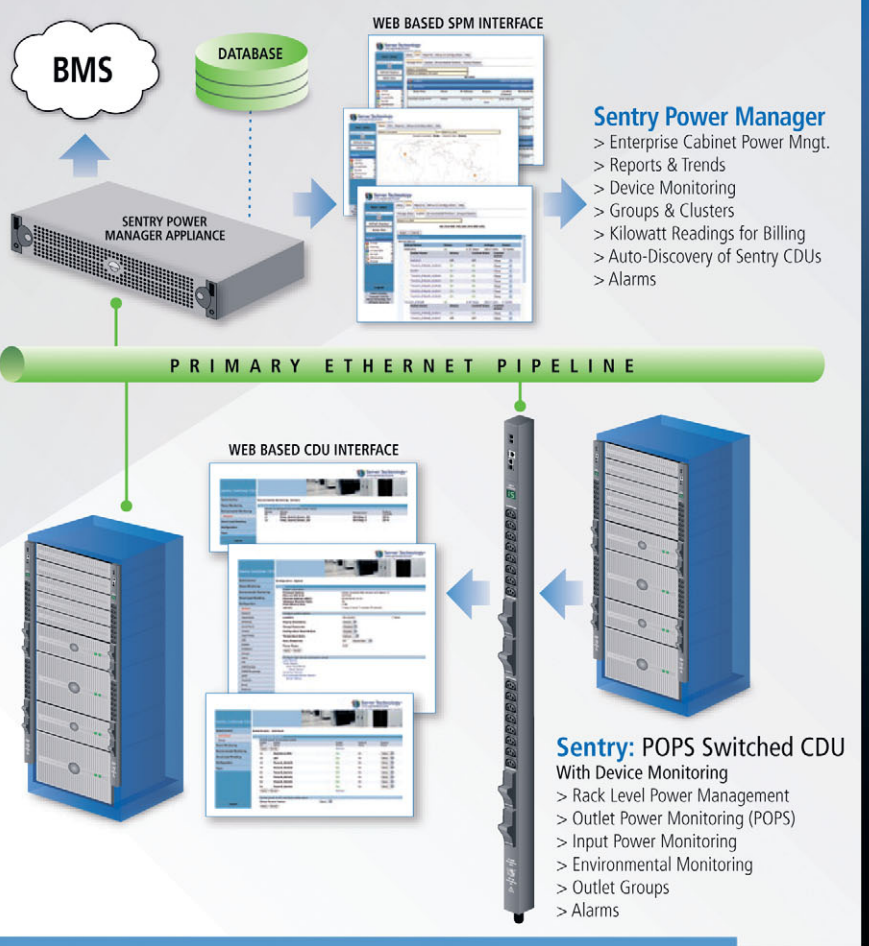

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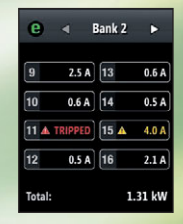

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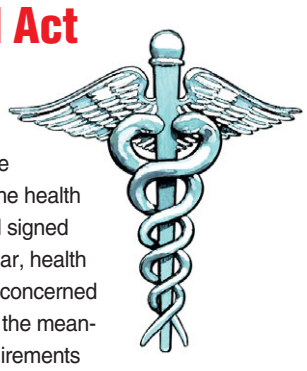
News

Of Special Interest To Health Data Centers

Health CIOs Unsure About Readiness To Comply With HITECH Act



Amidst the commotion surrounding the HITECH Act, the health care reform bill signed into law last year, health care CIOs are concerned about meeting the meaningful use requirements necessary for their organizations to receive stimulus money, according to a report.

PricewaterhouseCoopers' Health Research Institute surveyed 120 CIOs and health IT executives to examine what health systems are doing to achieve meaningful use and to uncover whether they are ready to meet the new requirements.

The first stage of meaningful use criteria, scheduled to be met by 2011, includes sending electronic copies of health information to patients and quality and immunization reporting. The second stage of criteria is to be completed by 2013, and the third by 2015, which includes having all documentation in EHR format. According to the study, 80% of CIOs surveyed are either concerned or very concerned with the ability to meet requirements within the specified time frame.

Bruce Henderson, national leader of the EHR/HIE Practice at PricewaterhouseCoopers, says that initial and ongoing collaboration is essential on the road toward meaningful use of electronic health records. "Each phase of the timeline for achieving meaningful use standards calls for a higher level of collaboration."

In the survey, 44% of CIOs say they are concerned that the external vendors they rely on in health information exchanges are not prepared for meaningful use implementation. Other barriers to implementation, Henderson says, include the delay in making final regulations publicly available, a lack of clarity surrounding some of the regulations, and an overall shortage of skilled IT staff in the labor market.

Preparing For Meaningful Use

Preparing for HITECH compliance takes considerable planning. "As a first step, CIOs should institute an open dialogue between vendors, payers, physicians, patients, and others and assess where their systems and processes stand," Henderson says. He suggests not packaging meaningful use projects as IT initiatives: "Technology is the backbone, but achieving meaningful use is really about standardizing care processes, ensuring quality, and reducing costs."

Although Henderson admits that this is a much more regulated path to reprioritizing health IT initiatives, he says CIOs are not changing their overall IT strategies. "We found that roughly 70% of CIOs regard the new federal mandates in the HITECH Act as merely accelerating efforts that they were going to invest in anyway," Henderson says.

"Reasonable or not, these meaningful use requirements are here and will have to be met, and organizations that do the best job responding to this timeline will find themselves in an advantageous position going forward," Henderson says.

by Antona Beckman

COVER FOCUS

Choose The Right VoIP Or UC System

Meeting Business Needs Matters More Than Bells & Whistles

by Carmi Levy

• • •

The first era of VoIP implementation is over. Early adopters that bought into VoIP in pursuit of voice-only cost savings are now being joined by a broader cross-section of enterprises looking for more. Although choosing the right solution isn't as simple or straightforward as it once was, the selection process need not be onerous.

Increasingly advanced integrated VoIP and unified communications solutions now do more than just deliver inexpensive voice service. They drive multimedia collaboration and let companies of any size take advantage of cost-effective, sophisticated services that were formerly the exclusive domain of the largest shops. As VoIP and UC continue their march toward mainstream adoption, the stakes for making the right choice have never been higher.

Start With Business Needs

Jeremy Smolik, a telephony specialist with CDW (www.cdw.com), says IT must start with a clear understanding of how internal and external communications function at all levels of the company and where the glitches are.

Key Points

- Work with organizational and business leaders to identify performance opportunities and build the business case for targeted VoIP/UC investment.
- VoIP/UC doesn't just change how individuals connect within an organization—it also influences, and is influenced by, the company's existing data infrastructure. Solutions that recognize this should be prioritized over solutions that don't.
- Even the highest-performing VoIP/UC solutions can be hobbled by inadequate vendor support. Determine a vendor's ongoing ability to support your particular needs before signing on the dotted line.

"Start with a definitive list of communication goals within the organization," he says. "Is the company looking to reduce operating costs, travel budgets, long distance charges, etc.? Are customers demanding more accessible information from company Web sites, tech support, or other resources? Does the whole of the organization simply need something better than the classic boardroom for meetings?

Smolik says answers to these questions can then be used to create an expected ROI calculation for the investment. He also recommends getting in front of business partners early in the process.

"To avoid making the wrong choice, schedule specific demos—not product overviews—and involve relevant personnel," Smolik says. "Ask to see manufacturer or partner test environments, deployments, and references from other companies using similar technologies. Early 'touch and feel' experiences will avoid issues down the road."

Build Support

Leadership buy-in is also key to making the optimal decision. Smolik suggests surveying managers and leaders to identify areas where better communications could increase productivity. For example, call centers without effective tracking could leave customers stuck on hold forever. Similarly, leaders may know of internal processes—including training and orientation—that need improvement or a fresh look.

Once these opportunities are identified, IT decision makers should also focus on the information repositories that underpin the organization. Although VoIP and UC-related decisions often revolve around improving and facilitating dynamic communication channels and methods, digging into the data is a critical step, too.

"Look at databases, employee directories, CRM tools, and email servers to determine their role in UC," Smolik says. "Which groups or personnel could benefit from real-time access to the information in them? If everyone necessary already has access, how can that access link to other communications in useful ways? What protocols and compatibilities can businesses use to interface with these resources?"

Smolik says other areas that must be covered during the decision-making process include the following:

Workforce mobility. What percentage of the workforce is either mobile or working from a remote or home office? Do these workers have the same resources and tools needed to perform as effectively as their colleagues in the main office? Solutions that support improved mobile devices and smartphone integration—including real-time presence or single-number-reach—can drive mobile workforce efficiency.

Regulatory requirements. Some sectors, including health care, financial services, government, and legal, are particularly sensitive to privacy or compliance issues. Any VoIP or UC solution must meet legislative minimums for managing information securely across the intended platform.

Current infrastructure state. If the company's current technology environment, which includes hardware, software, and skills, isn't ready, any VoIP/UC implementation should be reconsidered or at least delayed until conditions are optimal. A network that isn't optimized for high-bandwidth voice and video traffic, for example, should prompt a project priority rethink.

Look Beyond Features

Although IT often focuses on feature set and usability to ensure business needs are met, these criteria are inadequate. Voice-based services and applications are particularly sensitive to QoS (quality of service) concerns. It hardly matters that a particular solution is loaded with next-generation features if calls are continually dropped, voice quality is substandard, and customers can't connect with the resources they need.

Beyond end-user needs, the operational capabilities of the vendor must also be taken into account.

"Not all VoIP providers are created equal, nor do they offer equal performance," says Jonathan Hoppe, president and CTO of Cloud Leverage (www.cloudleverage.com). "Many in the industry will recommend that customers make certain they select a VoIP provider who consistently monitors and tests network performance."

Consider The Cloud

The increasing capability of cloud-based infrastructure adds a compelling new twist to the VoIP/UC landscape, namely that IT can use the flexible scalability of the cloud to minimize up-front capital spend.

"Companies no longer have to buy more bandwidth in order to ensure enterprise-grade performance," Hoppe says. "Today, VoIP providers can partner with other hardware or cloud-based companies in order to optimize their transmissions and data transfer."

This can be especially compelling to smaller or less sophisticated IT shops. Cloud-based solutions can often deliver more sophisticated VoIP and UC capa-bilities sooner in their life cycles compared to similarly budgeted, hardware-based projects. P

Plan For The Future

When settling on a particular VoIP/UC solution, don't forget to consider future needs, as well. "Always assume growth, especially with videoconferencing or collaboration," says Jeremy Smolik, a telephony specialist with CDW. "Exponentially more people will begin to use these technologies once they are in place." He recommends keeping track of a given solution's maximum capacities or limitations and choosing a modular, scalable system that can easily keep pace with organizational growth.

COVER FOCUS

VoIP & UC Pitfalls

Snares To Sidestep When Jumping In To New Communications Technologies

by Dan Heilman

• • •

Voice over Internet Protocol—commonly known as VoIP—and unified communications technology have been a godsend for many enterprises, offering cost savings, increased efficiency, and streamlined communications. But for just as many companies, they've brought hassles and unnecessary expenses thanks to poor planning or implementation.

How can your company avoid those headaches? Here is a look at some pitfalls commonly associated with the adoption and maintenance of a VoIP/UC system and how best to deal with them.

Implementing Before You're Ready

Your VoIP service is only going to be as good as the ISP and local network that supports it. It's important to make sure your business network is VoIP-ready: Does your high-speed Internet connection match your usage? You may need to increase the bandwidth of your Internet connection to handle the additional phone traffic generated by your new VoIP system. Do you need a VLAN? If your business is heavy on Web usage or you send a lot of large files, you might consider a separate network or VLAN just for voice.

For that matter, do you even need VoIP phones? There could be a cheaper and easier alternative that lets you bypass new hardware. "Using a VoIP service means using compatible SIP phones," says Jackie Funk of business-class phone service provider Aptela (www.aptela.com). "Softphones are a cost-efficient alternative."

Failing To Shop Around

You also need to do your homework so that you're able to differentiate between services and providers. Consider a cloud-based solution that offers new features regularly and is maintained and upgraded by the vendor, saving you the burden of maintaining and upgrading a system. A hosted, software-based solution can let you integrate your VoIP solution with other software-based tools such as Outlook and Internet Explorer.

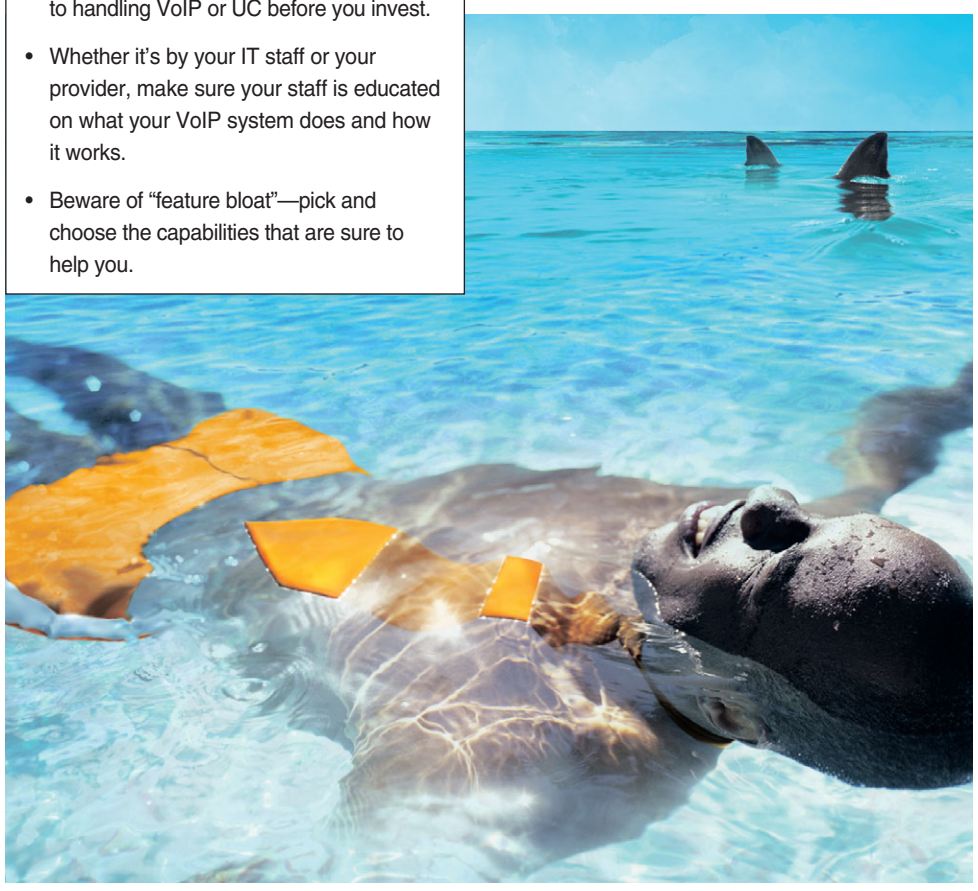
"The extensive productivity a VoIP solution can and will drive for the buyer [can lead to] direct savings," Funk says. "But even more important, a hosted VoIP solution offers significant value in the productivity enhancements it can drive."

As for unified communications, a potential drawback for a small to medium-sized enterprise is the cost of deploying a hosted or on-premises solution. According to Louis Hayner, CSO of Alteva (www.altevatel.com), with an on-premises UC solution, you could be looking at a $2,000-per-user one-time fee when you take into account the phone system, the phone, messaging system, and so on. With a hosted or cloud-based solution, however, deployment time, management time, and total cost of ownership can be cut drastically.

When shopping for a VoIP or UC provider, don't automatically go with a big-name provider just because it's familiar; often, high-profile brand names can come with higher rates. Instead, look carefully at all options—big-name and lesser-known—and weigh them against your IT staff's own abilities and expertise.

Key Points

- Make sure your IT system—and the external infrastructure that will enable it—is up to handling VoIP or UC before you invest.
- Whether it's by your IT staff or your provider, make sure your staff is educated on what your VoIP system does and how it works.
- Beware of "feature bloat"—pick and choose the capabilities that are sure to help you.



"Companies can simply research alternatives by deploying testing environments, even on virtual servers, to become familiar with the technology," says Tim Rice, IT manager for True Call International (www.truecallinternational.com). "Launch a few beta phones on these test systems and compare with the legacy systems you know and trust."

At the same time, though, don't go too small: Your company shouldn't be in the business of running a VoIP solution. Third-party vendors will manage the solution and provide support for the infrastructure, freeing up your company from tracking equipment depreciation, applying software upgrades, and providing your own tech support.

Not Learning The Language

Many companies, smaller ones especially, are baffled by not just the technology but also the terminology of VoIP and UC, so they turn to their IT departments—which may not have dealt with VoIP before—and ask them to convert their phone systems and educate the troops on how to use it. That can be a mistake.

"Given the learning curve and the potential complexity of the platform, the lack of a solid understanding of the underlying concepts of proper VoIP planning lead to a system that is neither manageable nor scalable, if you're lucky enough to end up with a system that is even functional in the first place," says Eric Loyd, president of Bitnetix (www.bitnetix.com). Loyd recommends seeking a reputable trainer or consultant to bring your staff up-to-speed on a new system before everyone is overcome with frustration.

Going All-In On Features

VoIP has grown in versatility, and a lot of features (Find Me lists, auto attendants, access to call logs, reporting, ease of adding or removing users, ease of adding or changing features) might be boons to productivity. However, much like with a cell phone plan, your company can easily get hit with extra costs for VoIP/UC features that you'll probably never use, says Mike Meikle, CEO of Hawkthorne Group.

"An example of this could be an application that provides an interface to program a user's office phone to route their calls to various mobile devices or provide reporting capabilities," Meikle says. "Corporate America runs primarily on email and instant messaging, so only a fraction of power users will exploit any additional phone features. This should always be taken into account when determining what features are absolutely necessary."

A thorough documentation of business and system requirements will help avoid purchasing features that don't add value. P

Don't Forget Power Protection

When used for premium voice applications, VoIP requires high performance from the network in terms of latency, jitter, and packet loss. "Network equipment must perform up to specifications, and that means it must be running on continuous, clean power," says Brad Amano, business development manager for Eaton Power Quality Solutions (www.poweradvantage.eaton.com).

Amano points out that the level of power typically consumed in a communication room with PoE (Power over Ethernet) capabilities is about four times that consumed by networks without PoE. Consider an uninterruptible power system to protect your UC investment.

News

i4i Wins Battle In War With Microsoft

Canadian software developer i4i has won a crucial battle in its ongoing patent war with Microsoft. The U.S. Patent and Trademark Office has confirmed, via the issuance of a

re-examination certificate, that the smaller company's patent, which covers the creation of custom XML documents, is in fact valid. The feature was originally included in Microsoft Word 2007 but had to be removed because of the patent suit and then re-engineered for inclusion in other releases of Word. Microsoft, in addition to paying to remove the infringing feature from its software, has also paid some $240 million in damages to i4i. If Microsoft elects to continue the fight, its next step would be the Supreme Court.

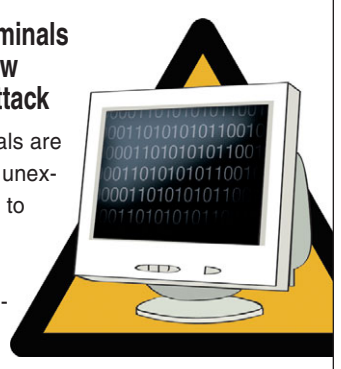
Report Ranks Customer Satisfaction

Kind of like the cable company and the big-chain megamart, everybody uses Facebook and loves to hate it at the same time. That's the word according to the 2010 American Customer Satisfaction Index E-Business Report conducted by ForeSee Results. In fact, about 95% of private sector companies—and even e-filing tax returns with the IRS—gave U.S. consumers more joy, the survey says. Customer satisfaction with Wikipedia (77%) and YouTube (73%) ranked significantly higher than Facebook (64%) in the social networking category. As for search engines, "all others" beat out Google (which slid 7% from last year to 80%), Bing (77%), Yahoo! (76%), AOL (74%), and Ask.com (73%).

PC Shipments Still On The Rise

According to a report from research firm Gartner, PC shipments worldwide were up 20.7% over the same period in 2009, to 82.9 million units. The percentage increase is slightly higher than the firm's earlier estimate of 19.3%. Although sales of mininotebooks still outpaced other PCs, the growth was significantly smaller than in the past few quarters. HP is still the world's top PC vendor, although its market share is slipping; the company currently has 17.4% market share as opposed to 18.8% a year ago. Acer (13%; up from 12% a year ago), Asus (5.2%; up from 3.5%), and Lenovo (10%; up from 8.2%) have gained ground in the past year.

Cybercriminals Finding New Ways To Attack



Cybercriminals are finding new, unexpected ways to attack PCs because the existing techniques have become less effective, according to M86 Security's Security Labs Report. One example: In the first half of this year, M86 Security saw an increase in combined attacks that split malicious code between Adobe ActionScript language and JavaScript components on a Web page. These new types of attacks are becoming increasingly difficult to detect. One other concern M86 notes is the widespread infection of legitimate Web sites through the Asprox Spambot. Once infected, the PC will perform a Google search to find additional vulnerable ASP Web sites.

News

EU Launches IBM Investigation

The European Commission announced it will investigate IBM for possible antitrust violations regarding the company's activity in the mainframe computer market. There are two separate cases. One is the result of complaints by T3 and Turbo Hercules, both emulator software vendors, accusing IBM of abusing its marketplace positioning to tie its OS to its mainframe. The other case, filed by the commission, will look at IBM's possible discrimination against competitors. IBM alleges that the complaints are driven by Microsoft and counters that the emulator software violates its rights, although it says it will fully cooperate with the investigation.

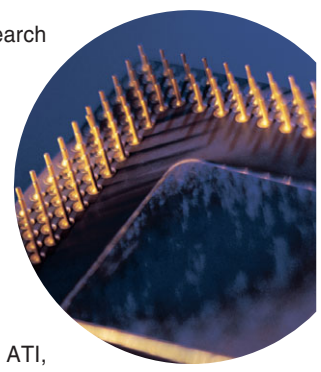
Apple Leads In Security Vulnerabilities

Apple was named the most vulnerable platform in a report compiled by Secunia. Multiple vulnerabilities were found in iTunes and QuickTime, and Safari 5.0 had an AutoFill security issue that hackers could take advantage of. Other companies on the list include Oracle, Microsoft, HP, and Adobe. The top 10 groups featured in the report account for at least 38% of all security vulnerabilities. Secunia also reports that security vulnerabilities have gone up for all companies, and the total number of vulnerabilities could reach more than 760 by the end of this year.

Survey Looks At Security Risks Of Free Apps

A new survey from the mobile security providers at Lookout reveal some of the security risks involved in downloading free apps for smartphones such as the iPhone and Android-based handsets. Lookout's App Genome Project intends to identify security threats and help educate developers about best practices in handling sensitive data on smartphones. The survey indicates that 29% of the free apps it examined on Android's platform can reveal the user's location. On the iPhone platform, 33% of the free apps have access to this information. Also, 14% of the iPhone's free apps can tap into the user's contact information, compared to 8% for Android. When it comes to third-party code—for instance, code that enables ad-supported content—47% of free Android apps and 23% of free iPhone apps have such code.

AMD Gains In Q2 Graphics Chip Shipments



Mercury Research reports that AMD has overtaken rival Nvidia in graphics chip shipments for the second quarter. AMD's graphics arm, ATI, accounted for 51% of the discrete graphics chip market, whereas Nvidia's cards made up 49%. A year ago, Nvidia's share of the discrete shipments was 59% and AMD's was about 41%. When integrated graphics are factored in, Intel still rules the graphics market with 54.3% share. AMD and Nvidia account for a majority of the rest of the overall market, with 24.5% and 19.8%, respectively.

PHYSICAL INFRASTRUCTURE

Top Tips For Energy Conservation

Use Technology To Reduce Power Consumption

by Bruce Gain

• • •

THE POWER-CONSUMPTION problem is well known in the IT industry: Server loads are increasing on an industry-wide scale, and the energy needed to cool and operate the infrastructure is rising at an exponential rate. However, there is no reason to be overwhelmed or to accept that rising energy costs come with the territory. Technologies and power management processes exist that will help you not only reduce data center energy consumption but also slash costs. A few things you can put in place do not even require a major investment, but they offer major returns.

Smart Monitoring

Using sensors and other tools to tightly track temperatures, power consumption, workloads, and other metrics throughout the data center and software that analyzes the data can go a long way to reduce energy consumption. "You can use your management system to look back at the historical trends and then use it as a proactive control," says Bill Kosik, energy and sustainability director for critical facilities services at HP (www.hp.com).

Monitoring tools, for example, can be used to locate and track applications that draw significant power resources but can be scheduled to run during off-peak hours when electricity costs are lower. When temperature hot spots are discovered in the data center, work loads can be shifted to other servers so that the air conditioners do not have to use more power to compensate for the clusters of higher temperatures, Kosik says. "You are not going to see 80% reductions [by using these methods], but you are really going to optimize your work load, and it is possible to see up to 20% in power-use reductions from better power management and workload shifting," Kosik says. "It is not insignificant."

Turn Down The AC

When servers began to fill up rooms in enterprises and heat levels first became an issue, the initial reaction was to just crank up the air conditioners and to keep the rooms at 70 degrees Fahrenheit or even cooler. However, blindly keeping data centers cool is not only passé, but represents a huge waste of energy. "When I first got started in this business, you pretty much had to have a jacket on every time you walked into a data center, which was more than likely going to be 55 degrees," says Jeff Lowenberg, vice president of facilities for The Planet (www.theplanet.com).

During the past few years, engineers have discovered that servers can operate at temperatures much higher than previously thought, which means enterprises can reap significant electricity savings by simply turning down the air-cooling systems. "The new ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) standard will let you take it all the way to 81 degrees, but we try to get ours to 75 to 76 degrees," Lowenberg says.

At the same time, worrying about the ambient temperatures of the data center is not nearly as important as the inlet server temperatures, Lowenberg says. "The only temperature that you are concerned about in the data center is the inlet air to the computers," Lowenberg says. "You don't care how hot your hot aisle gets, since as long as you can keep the air inlet temperatures to your computers within the ASHRAE and the manufacturers' standards, that is all you need to do. Everything else will take care of itself."

Key Points

- Tracking and monitoring data center temperatures, power consumption, server loads, and other metrics can lead to power reductions by knowing how to more efficiently allocate resources.
- ASHRAE has significantly raised recommended server temperatures, so if the thermostat is constantly set at 70 degrees Fahrenheit, you are probably wasting a lot of energy.
- Data center lights don't need to be on during most hours of the day, and using motion sensors to turn them on and off can translate into significant electricity cost savings.

Water Cooling

Outside air can be used to chill water for data center cooling purposes. Even in Dallas, where temperatures are relatively hot much of the year compared to many areas of the United States, Lowenberg estimates that temperatures are cool enough 2,000 hours out of the year so that outside air can be used for low-power cooling. "All I need is a 4-degree temperature delta so that if it is 56 degrees outside, I can provide 60 degrees water to the data center," he says. "You still have to run the pumps for the water, but that huge chiller motor, even though we use high-efficiency chillers, still consumes a lot of power, so I am taking that out of the mix."

Though still in the planning stages, Lowenberg says he hopes his data center will see a 20% energy savings to cool the data center by using outside air. "We can use this method only about 25 to 30% of the year, but during the entire year I am going to realize close to a 20% energy savings," he says. "The chiller probably [accounts for] 85 to 90% of the energy consumption in the cooling system when it is running."

Use Lights & AC Only As Needed

Data center lights are usually left on, which represents a tremendous waste of energy. But why not just turn the lights on only when they are needed? One way to do that is by installing motion sensors that activate the lights whenever someone enters the data center, says Ruben Peijnenborgh, managing director of Shields Environmental (www.shields-e.com). "Some data centers keep their lights on 24/7 when they are only occupied three to four hours a day," Peijnenborgh says. "You can achieve 40% savings in lighting electricity costs with motion sensors."

Air-cooling system power needs fluctuate, yet the power draw usually remains constant regardless of the workloads. One way to reduce cooling power consumption is to invest in systems that consume only the amount of power that is required on an as-needed basis, Shields Environmental's Peijnenborgh says. "The result is a 10 to 30% reduction in electricity consumption for the air conditioning," Peijnenborgh says.

If possible, reduce the need for cooling from the beginning. Data center managers more often than not are unable to pick the location where a data center will be built. However, the differences between energy costs depending on where a data center is located in the United States can be dramatic. So if it is possible to pick a cool and not-so-humid location for your data center build instead of the balmy and wet southeast, for example, significant costs can be saved. "It has always been the case that cooler and less-humid climates [require less power] to operate [in] than hotter and more humid climates," Kosik says. P

Cover Up The Holes

Open spaces in server cabinets can allow hot and cold air to mix, thus hampering cooling efficiencies. Using blank plates to close open spaces in cabinets can generate significant energy savings, says Jeff Lowenberg, vice president of facilities for The Planet (www.theplanet.com). Lowenberg says his enterprise was able to slash total data center energy costs by 10% by adding blank plates to servers as well as by sealing the open gaps around wires and cables that passed through raised floors and walls. "Hot air from the hot aisle comes through those gaps and is pulled in front of the server. Now you are not getting the coldest air to your servers and are mixing the hot and cold air, which is a waste of energy," Lowenberg says. "I am not there to cool the hot air—I am there to provide cool air to the servers. Without exception, almost every data center I walk into, they either do not [use blank plates] or are doing a very poor job of doing that."

MovinCool CM25 NEW PRODUCT

by Tessa Warner Breneman

An Affordable, Energy-Efficient, Ceiling-Mounted A/C Designed For Server Rooms

By now you undoubtedly know that, with all your servers and other machines running nonstop, it's easy for your data center or server room to reach temperature levels high enough to damage heat-sensitive equipment. Because damaged equipment is costly to fix and could result in data loss, you need a cost-effective cooling solution to address temperature issues in your data center.

The MovinCool CM25 offers a total cooling capacity of 25,000BTU/h, making it the industry's first ceiling-mounted, self-contained air conditioner with that high of a cooling capacity, and its $6,995 price tag is lower than conventional solutions such as precision cooling systems. The CM25 also provides a high sensible cooling capacity of 18,900BTU/h and is made specifically for server rooms and other environments with dense heat loads. The air conditioner boasts a SEER (Seasonal Energy Efficiency Ratio) rating of 14, due in part to energy-saving elements such as its variable-speed inverter compressor and inverter fan motors. The CM25 also boasts green features such as R-410A refrigerant and RoHS compliance.

With a built-in mounting bracket, flanges, and vibration isolators, the CM25 is easy to install into any environment with all the standard tools you likely already have. Just 20 inches high, the CM25 is designed to fit above drop ceilings and in server rooms with limited floor space. And because it is self-contained, the CM25 won't need refrigerant connections, further reducing installation costs.

MovinCool CM25

A ceiling-mounted air conditioner that provides an energy-efficient cooling solution for data centers, server rooms, and other environments with high heat loads.

$6,995

The wall-mounted controller, which comes standard on all CM25s, provides advanced communications, monitoring, and self-diagnosis, so it's easy for IT personnel to manage. Plus, it works with your fire alarm controls and connects to the building control system for safe and simple management.

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PHYSICAL INFRASTRUCTURE | PRODUCT SPOTLIGHT

Portable Cooling

Black Box 24 Or 42U ClimateCab NEMA 12 Server Cabinet

Description

Black Box ClimateCab Server Cabinets can accommodate systems that reside in areas without adequate climate controls, letting users avoid making costly infrastructure changes. These enclosures are NEMA 12 rated for use in indoor locations with falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids.

- Save energy by cooling just the cabinet, not the entire room
- Includes a 6,000 BTU (24U) or 8,500 BTU (42U) air-conditioning unit
- NEMA 12 rated
- 40-inch depth accommodates most servers

Best For: Server installations outside the protection of a climate-controlled data center.

Price: $4,249.95 (24U); $5,499.95 (42U)

Black Box ClimateCab NEMA 12 Wallmount Cabinet

Secure wallmount ClimateCab cabinets provide a compact way to protect and cool sensitive components. Users can install the NEMA 12-rated wallmount cabinets in indoor environments where falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids would otherwise cause problems for equipment.

- Compact wallmount design saves space
- Operates on a standard 115V power source
- Single-hinged or double-hinged
- Choose from a cabinet with a fan or an 800 BTU air-conditioning unit

Best For: Remote sites that have limited space and conditions that could be damaging to delicate electronics.

Price: $999.95 to $2,795.95

KwiKool KPO 12-23 & 12-43 12-Ton

The new KwiKool KPO portable air conditioners deliver a powerful 12 tons (139,400 BTU/hr) of cooling capacity in a compact size. The unit measures only 62 x 32 x 64 inches (HxWxD)—about the size of a typical 5-ton unit—and it's small enough to fit through a standard door.

- Condenser and cold supply and return air can be ducted up to 60 feet using high-static blowers
- Internal circuit breaker allows easy hookup to 208/230-volt three-phase (12-23) or 460-volt three-phase (12-43) models
- Integrated phase and power monitor provides protection from electrical power quality issues
- Low ambient temperature controls with a condenser operating range of 30 to 100 degrees Fahrenheit

Best For: Large computer rooms or emergency cooling during outages.

Price: Rentals from $450 per day or $1,325 per week

KwiKool SAC 1411

Description

As one of KwiKool's Strategic Air Center series of portable spot coolers, the SAC 1411 features microprocessor digital controls and an Easy-Touch control panel. The unit is an air-cooled, 1.15-ton portable spot cooler that operates on a 115V/15A circuit. The SAC 1411 also supports 460CFM evaporator airflow and 1,200CFM condenser airflow.

- Provides 13,850 BTU/hr of cool air
- Operates on a standard 115V power source
- Operating range between 60 and 110 F
- Easy-access hinged panel with Kwikloks

Best For: Computer rooms, server closets, or warehouse use.

Price: $3,495

MaxPower CoolCube 10

The CoolCube 10 is a unique modular air-conditioning system that users can install standalone or stacked in a 19-inch server rack, above a drop ceiling, or as a portable spot cooler. Features include a programmable control panel, electronic thermostat control, and a 2.5-gallon condensate collection tank.

- Can be stacked up to three modules high
- Provides 10,000 BTU/hr of cool air at 95 F at 60% RH
- Stackable for redundancy or added capacity
- Operates on a standard 115V power source

Best For: Computer rooms, server closets, and IT facilities with limited floor space.

Price: $2,600

MovinCool CM12

The MovinCool CM12 is a ceiling-mounted air conditioner that is just 15.5 inches tall, making it ideal for spot cooling space-limited installations and server rooms. The CM12 frees up valuable floor space and features built-in flanges and mounting brackets, letting users install it quickly and with minimal effort. The CM12 is a cost-effective spot-cooling alternative to central air conditioning.

- Provides 10,500 BTU/hr of cool air at 80 F at 50% RH
- Provides 13,000 BTU/hr of cool air at 95 F at 60% RH
- Operates on a standard 115V power source
- Fits into tight ceiling spaces, freeing up floor space

Best For: Space-limited equipment rooms and cramped server and telecom closets.

Price: $2,895

Contact: (800) 264-9573 | www.movincool.com/dealer.php

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Andrew Liebman

MovinCool CM25

The new MovinCool CM25 is a ceiling-mounted air conditioner that is 20 inches tall and compact enough to fit above a drop ceiling to spot-cool compact server rooms that need robust heat evacuation. The CM25 features a wall-mounted electronic controller that lets users monitor and troubleshoot problems. The unit also features built-in flanges and mounting brackets for easy installation.

- Provides 25,000 BTU/hr of cool air at 80 F at 50% RH
- Environmentally-friendly design: 14 SEER, variable-speed compressor; R410A refrigerant; and RoHS-compliant
- Operates on a 208/230V power source
- Wall-mounted controller with LCD

Best For: Server rooms and other spaces with high heat loads.

Price: $6,995

Contact: (800) 264-9573 | www.movincool.com/dealer.php

MovinCool Office Pro 12 sold by Rackmount Solutions

The MovinCool Office Pro 12 is a portable spot-cooling air conditioner designed to lower operating temperatures of computers and networking, communications, and office equipment to maximize reliability and hardware lifespan. The Office Pro 12 is self-contained and portable and features an electronic thermostat and a programmable control panel for tailored cooling when and where you need it most.

- Provides 12,000 BTU/hr of cool air for maximum spot cooling
- Programmable digital controller
- Operates on a standard 115V power source
- No costly installation necessary
- Maintains ideal operating temperature for heat-sensitive electronics, down to 65 F

Best For: Offices filled with heat-generating electronics.

Price: $3,655

Contact: (866) 207-6631 | www.rackmountsolutions.net

MovinCool Office Pro 18 sold by Rackmount Solutions

The MovinCool Office Pro 18 offers superior cooling capacity without requiring a nonstandard power source. This portable air conditioner protects sensitive data and electronics systems from loss and failure, acting as an insurance policy for your infrastructure. The Office Pro 18 features an intuitive control panel that lets users designate when the unit operates.

- Provides 16,800 BTU/hr of cool air for maximum spot cooling
- Operates on a standard 115V power source
- Programmable controls enable weekend and after-hours cooling
- No costly installation necessary
- UL Listed for safe operation

Best For: Heat-sensitive office and data systems.

Price: $4,065

Contact: (866) 207-6631 | www.rackmountsolutions.net

MovinCool Office Pro 36 sold by Rackmount Solutions

The MovinCool Office Pro 36 delivers 36,000 BTU/hr of spot cooling for sensitive equipment. The Office Pro 36 features an intuitive control panel that lets users program the unit to operate after hours or on the weekend. The portable self-contained air conditioner requires no costly installation.

- Provides 36,000 ETL-verified BTU/hr of cool air for maximum spot cooling
- Operates on a 208/230V power source
- Features an AFCI plug for added safety against electrical arcing
- Supports plug-and-play condensate pump
- Easy-to-use programmable controls
- Self-contained, portable, and easy to set up and operate

Best For: Servers, routers, telecommunications, and other heat-sensitive equipment.

Price: $6,995

Contact: (866) 207-6631 | www.rackmountsolutions.net

MovinCool Office Pro 60 sold by Rackmount Solutions

The MovinCool Office Pro 60 delivers up to 60,000 BTU/hr of cooling capacity, making it almost twice as powerful as MovinCool's Office Pro 18. This portable air conditioner is designed to manage temperatures for computer networks, communications equipment, and office electronics. The self-contained Office Pro 60 is easy to install—just position the wheeled unit, plug it in, and turn it on.

- Programmable digital controller enables weekend and after-hours cooling
- Operates on a 220V power source
- Provides cooling to temperatures in the low 60s to maximize the life span of heat-sensitive electronics
- Condensation pump included for uninterrupted operation
- UL Listed for safe operation

Best For: Large office spaces and computer rooms filled with heat-sensitive electronics.

Price: $11,145

Contact: (866) 207-6631 | www.rackmountsolutions.net

MovinCool Office Pro 63 sold by Rackmount Solutions

Like its sibling the Office Pro 60, the MovinCool Office Pro 63 delivers up to 60,000 BTU/hr of cooling capacity and is ideally suited for the demands of large office spaces and heat-sensitive electronics installations. This portable air conditioner is self-contained and operates on 460V power for as little as 15 cents per hour.

- Programmable digital controller enables weekend and after-hours cooling
- Provides cooling to temperatures in the low 60s to maximize the life span of heat-sensitive electronics
- Condensation pump included for uninterrupted operation
- UL Listed for safe operation

Best For: Large office spaces and computer rooms filled with heat-sensitive electronics.

Price: $12,495

Contact: (866) 207-6631 | www.rackmountsolutions.net

PHYSICAL INFRASTRUCTURE | PRODUCT SPOTLIGHT

Overhead Cable Management

Product

Black Box BasketPAC Cable Tray Sections & Individual Sections

Description

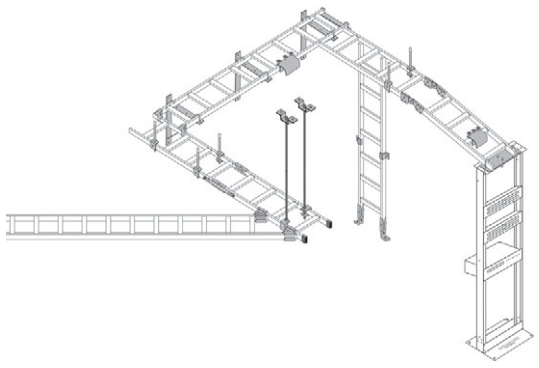
Black Box BasketPAC Cable Tray Sections are constructed of welded steel wire and ship with hardware that makes installation fast and easy.

- Four-pack cable trays come in 78-inch lengths (RM710A)
- Individual cable tray sections are available in 10-foot lengths (RM780)
- All trays are available in 2-, 4-, 6-, 8-, and 12-inch widths
- Joining method options include bolt-free splices and fast splices

Best For: Companies of all sizes that need easy-to-install overhead cable tray systems.

Price: Start at $199.95 (RM710A) and $68.95 (RM780)

Black Box Ladder Rack (6’ x 12”)



Black Box’s cable management products carry a lifetime guarantee, and 99.96% of the company’s in-stock products ship the same day. Black Box’s 6’ x 12” Ladder Rack is available in gray (RM663) and black (RM650) options.

- 16-gauge tubular steel cable and mig-welded rack for routing cable along ceilings and walls and in closets
- Create custom cable-management solutions with 6- and 10-foot racks and a wide array of connecting and support hardware
- Side rails feature 0.375- x 1.5-inch tubing; strings are constructed of 0.5- x 1-inch tubing

Best For: Companies of all sizes in need of easy-to-install systems that can be routed along ceilings and up walls.

Price: Starts at $52.95

CableOrganizer.com CM10 & CM20 Series Cable Trays

Designed for worry-free code compliance, the CM10 and CM20 Series wire-basket cable trays are easy to customize without structure-altering modifications. Prefabricated CM10 and CM20 reducers, turns, waterfalls, and junctions drop into place with no cutting, bending, or excessive hardware needed.

- Patent-pending design creates a continuous ground conductor without additional grounding splices or hardware
- Available in standard 2-, 4-, 6-, 8- and 12-inch widths
- Preformed drop-in turns, waterfalls, reducers, and junctions allow for customization without sacrificing code compliance
- UL certified and made of powder-coated zinc
- Installation hardware included

Best For: Creating customized cable tray runs without having to make noncompliant structural modifications.

Price: Starts at $6.93

Product

NetCablesPlus Fiber Surface Mount Box (6-Port)

Description

Suitable for overhead projects, the NetCablesPlus Fiber Surface Mount Box includes write-on designation labels and port icons for easy identification. The boxes support 1-inch Snap-In Modules for different configuration of jacks and connectors.

- Breakouts on three sides for raceway or cable entry
- Modules snap out of the box’s front to make changes without opening the box
- Studs for cable-tie fastening
- Breakouts available in 0.75- x 0.5-inch, 1.125- x 0.75-inch, and 1.75- x 1-inch options

Best For: Data center multimedia and optical fiber applications of any size.

Price: $8.99

NetCablesPlus Keystone Surface Mount Box (12-Port)

Designed for networking and multimedia applications, the Keystone Surface Mount Box from NetCablesPlus also works well for overhead cabling management and has a small, easy-to-install design allowing for different configurations of Keystone Jacks and Inserts.

- Snap-on top cover includes write-on designation labels, clear covers, station IDs, and mounting screws
- Breakouts included on three sides for raceway or cable entry
- Modules easily snap out of the box’s front to make changes without opening the box
- Studs for cable tie fastening

Best For: Organizing cables for Ethernet, A/V, and other applications.

Price: $6.99

NetCablesPlus Tyton Raceways

Each Tyton Raceway from NetCablesPlus includes a large enough base to provide an excellent adhesive surface. An aesthetic, low-profile design blends into any environment, and numerous complementary fittings and accessories help adjust the run as needed.

- EIA/TIA-compliant
- Complies with industry-standard CAT 5 requirements for bend radius
- Constructed of 94V-0 PVC
- Multiple fittings available

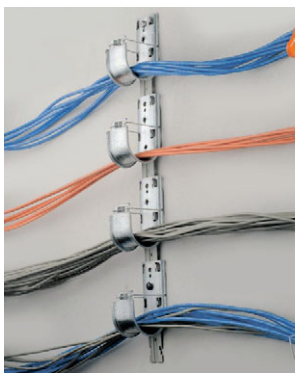
Best For: Data centers looking to hide a variety of cabling attractively.

Price: $11.99 (6 feet x 0.75 inch)

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Blaine Flamig

CableOrganizer.com ERICO Caddy J-Hook CAT Link System



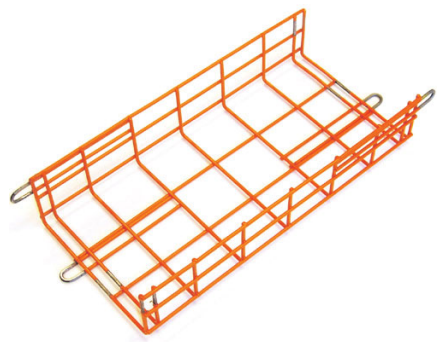
The ERICO Caddy J-Hook CAT Link System aerial cable hangers are designed for use with CAT 6a, CAT 7, and large-diameter fiber optic and coaxial cables and feature beveled, low-friction edges for easy cable pulls. The hangers can maintain large-bend radii, thus preventing cable damage and attenuation. They also support threaded rod, wall, beam, and bracket mounting options.

- No grounding, screws, rivets, or special tools required, saving time and money
- Bendable locking tabs secure cables into hooks and provide extra rigidity and structural support
- Enables easy expansion, as additional J-Hooks can be attached to existing ones
- Environmentally friendly construction consisting of 80% recycled steel

Best For: High-performance cable upgrades where adding to an existing cable support system is preferable to replacing it.

Price: Starts at $2

CableTiesAndMore CM10 Cable Trays



CableTiesAndMore's CM10 wire cable trays feature a unique, innovative design that includes prefabricated junctions and intersections that allow for easy installation. The result is savings in time and installation costs.

- Only one tool required for installation
- No cutting or bending required
- UL rating means trays function as equipment grounding conductors
- Constructed of powder-coated steel

Best For: Building and other construction sites.

Price: Starts at $6.65

CableTiesAndMore Wiring Ducts

Designed for use within cabinets and control panels, CableTiesAndMore's Wiring Ducts use a unique wire and cable management system that makes them suitable for office applications.

- Available in numerous sizes
- Manufactured of standard PVC or Noryl material
- Available in gray, white, or black
- Open Slot, Narrow Slot, Closed Slot, and Solid Wall options available
- Economical open-slot wiring ducts available for those on budget

Best For: Cabinets, control panels, and office use.

Price: Starts at $32.18

NetCablesPlus Screw-Mountable Hook & Loop Cable Ties 10-Pack

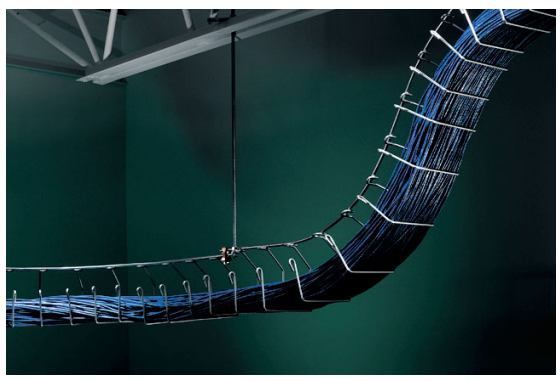
NetCablesPlus' Screw-Mountable Hook & Loop Cable Ties make organizing overhead cabling easy. The nylon-based ties are simple to use and are reusable thanks to their self-attaching design.

- Available in 8-inch and 12-inch sizes
- Made of high-strength nylon hook and loop to securely organize cables
- Screw into plywood, wood framing, relay racks, and drywall
- Lifetime warranty

Best For: Overhead cabling organization needs in data centers of any size.

Price: $7.99 (10 8-inch ties); $9.99 (10 12-inch ties)

Snake Tray 201 Series Tray



Snake Tray 201 Series Trays are hand-bendable cable trays designed for overhead use. Snake Tray 201 Series trays require no fabrication and come with built-in mounting hardware. Trays connect with one split bolt or inline connector and nest together for economical shipping and material handling.

- Available in various sizes
- Quick to install
- Patented hand-bendable design
- Built-in mounting rings
- Stack together to save on shipping

Best For: Government, retail, education, financial, industrial, marine, and other industries.

Contact: (800) 308-6788 | www.snaketray.com

Snake Tray Mega Snake Cable Management Solutions

The Mega Snake is a high-capacity overhead cable tray that comes in premanufactured sections with a built-in mounting system to expedite installation. Accessories for Mega Snake include a series of power modules to deliver power overhead quickly and efficiently.

- Premanufactured components
- Patented accessory rail for hanging additional cable trays, patch panels, or power modules
- Trays stack together to save on shipping
- Built-in suspension system included that eliminates mounting hardware

Best For: Companies with high-capacity cable management needs.

Contact: (800) 308-6788 | www.snaketray.com

Data Center Tiers

Your Business Case Will Define The Tier Level You Need

by Bridget Mintz Testa

• • •

Developed by former data center owners as industry standards, Uptime Institute's Tier Classification System applies globally, with certifications in 25 countries. The four tier levels were created so organizations can evaluate, in terms of their institutional needs, a data center's power, cooling, maintenance, and single fault-tolerance capabilities.

Each organization's reason for needing a data facility dictates which tier is needed. Building a Tier IV data center when all that's really needed is a computer room is like using a machine gun to dispatch a fly.

Although there's much support for the Tier Classification System, detractors worry that, despite their many benefits for the industry, the tier standards miss a couple of key data center functions.

Four Tier Definitions

A Tier I solution is most likely to be a computer room (not a closet) with "improved infrastructure above an office setting," says Julian Kudritzki, vice president of Uptime Institute (www.uptimeinstitute.org). "It's not tied to office hours, and it can deliver power and cooling when the office isn't operating—it doesn't shut down at 6 p.m." It would have one UPS, one engine generator, and dedicated cooling or, in other words, "capacity components."

Such a computer room "has no fault-tolerance, and everything must be shut down for maintenance," says Vince Renaud, managing principal at Uptime Institute Professional Services. "You must be able to do maintenance of the infrastructure, so you must be able to shut it down for maintenance without harming the business."

Key Points

- Uptime Institute data center tier designations specify the capacity components of power, cooling, and water as well as distribution paths and fault-tolerance. The proper tier solution is dictated by the business case of the organization.
- Many misconceptions surround the tier standards.
- Tier levels are absolute, with no fractional levels possible.

Tier II has redundant capacity components—two UPSes, two engine generators, and two cooling units. But that does not mean that if one capacity component fails, the second one steps in automatically.

"Tier II has a single distribution path," Renaud says. "This lets you take a capacity component out of service and do maintenance on it without taking the function out of operation. With redundant capacity components, but with one distribution path, you still have to take the data center down for maintenance."

That is, if a capacity component requires maintenance, the distribution path could be manually shifted to the other component, but the shift isn't automatic. "Imagine a length of pipe," Kudritzki says. "It's redundant on either side, but for maintenance, you must shut down the pipe."

With Tier III, "each and every capacity component and distribution path can be removed from service for maintenance on a planned basis without disrupting the operations of the data center," Renaud says.

Tier III does have single points of failure. "The second distribution path is not required to be on, but some facilities do keep it on for another layer of robustness—not redundancy," Kudritzki says. There's no automated switchover between capacity components or distribution paths, either. "The redundancy is for planned outages and maintenance events," Renaud says.

Tier IV has everything the other tiers do, but it can operate with "any single unplanned event—not multiple events," says Renaud. "It has fault-tolerance. It can detect and isolate a fault automatically to provide stable operations. Both redundant distribution paths must be active. A single human error cannot bring a Tier IV data center down."

> Building a Tier IV data center when all that's really needed is a computer room is like using a machine gun to dispatch a fly.

Misconceptions & Myths

Despite fairly clear outlines of the different tier levels, some misconceptions exist. "One of the biggest contributors to tier misunderstandings is losing the focus that it's a standard based on the performance capabilities of the facility," says Kudritzki. "Tiers are the standard. They are not an implementation. Implementation is all up to the owners." Tiers don't dictate your choices, Kudritzki says, when it comes to whether your data center has raised floors, open windows, hot and cold aisles, or other elements.

Uptime Institute tiers are designated with Roman numerals: I, II, III, and IV. "We use Roman numerals because the tiers are absolute," says Renaud. "You can't really do 'tier 3.6' with Roman numerals." Tier mash-up attempts came about when people took a piece of a higher tier, implemented it in their data center, and then claimed the facility had a fractional tier level. "If your data center is Tier III, but you have a Tier IV element, that doesn't make it a 3.X data center," Renaud says. "It's still Tier III because the tier is from the lowest common denominator of the facility."

One other issue with the tiers is concern over how comprehensive they are and whether they specify everything needed for a modern data center to function.

"The Uptime Institute's tier standards are used and referenced a lot," says John Morency, research director in IT operations continuity and resilience at Gartner. "They go part of the way for specifying downtime for components and distribution. The problem is that they assume those are the only ways a data center can have downtime."

Morency thinks the tier standards should go beyond power and cooling. "Today, leaving out network connectivity and multiple paths in and out shows a limitation," he says. "For organizations making decisions, another factor that isn't considered [in the data center tiers] is security, privacy, and access management. This is now a very key issue," he says.

"Network connectivity and security are 'gotta-haves,'" Morency says. "Uptime Institute tiers are helpful, but not sufficient to decide whose data center you're going to use."

Kudritzki acknowledges that data center capabilities aren't determined solely by Uptime Institute tiers, and that they shouldn't be the only consideration when building a data center. "If the infrastructure is not built properly—if it has power failures—its security and privacy are irrelevant," he says. "Network connectivity and security decisions vary by industry and are also driven by business requirements. To create an industry standard for network connectivity and security that would align across all verticals would be nearly impossible."

Despite what he views as limitations, Morency says, "The tiers have standardized power and cooling differentiators for different classes [of data centers]," he says. "The level of robustness does differentiate the level of offering. This is definitely nontrivial, because insufficient power and cooling are the biggest reasons organizations look for new data centers," he says.

"If you look at downtime and the biggest reasons organizations declare disaster with their data centers," Morency says, "brownouts/blackouts and floods/hurricanes [are two of the major causes]. So availability and flexibility of power and cooling really do insulate data center customers from these events." P

Fair, Good, Better, Best?

Question: Which Uptime Institute data center tier is better: I or IV?

Answer: That's the wrong question.

"One of the biggest misunderstandings of tiers comes when they're divorced from the business case," says Julian Kudritzki, vice president of the Uptime Institute (www.uptimeinstitute.org). "People try to force tiers into 'good, better, best.' There is nothing wrong with a Tier I or II facility. Tier IV is not 'the best.' Once you strip off the business case, you lose the essential point."

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Faster, More Efficient IT

FrontRange Offers Software Solutions That Streamline IT Operations In SMEs

by Holly Dolezalek

• • •

ANYTHING THAT MAKES IT faster, more efficient, or less labor-intensive is going to be a hit, both with IT professionals and their bosses. FrontRange Solutions is building a software stable that can do that for all kinds of functions.

FrontRange (www.frontrange.com) makes service management, customer service, and asset management software. The company's IT business offers products for IT organizations, including applications for service desk, service management, and IT asset management.

FrontRange also has a segment that focuses on customers, whether it's CRM or customer service applications.

The company serves more enterprise customers than it used to, but according to Kevin Smith, FrontRange's vice president of products, the sweet spot for its IT business is organizations with between 500 and 5,000 employees. For the CRM and customer service market, it's organizations with between 50 and 2,000 employees.

"We find that we're a good fit for health care, education, government, retail organizations, and financial institutions," Smith says.

HEAT & GoldMine

FrontRange is best known for two products: HEAT and GoldMine. HEAT is help desk software that automates such standard tasks as inbound and outbound email communication and end-user service request management. HEAT, along with FrontRange's Discovery product, tends to be most popular among SMEs, Smith explains. Discovery is an IT asset management application that finds out what assets are deployed on the network, where they are, and what the condition of each one is. It tracks hardware, software, usage levels, and new assets in Windows, Mac, Linux, and Unix platforms.

"We often talk to CIOs who aren't sure what assets they have or where they are, or who don't know how many laptops or desktops they have," Smith says. The application helps with audits and with help desk calls, cutting down the amount of time that help desk employees have to spend on figuring out the configuration of problem assets.

GoldMine, on the other hand, is a CRM product that helps with marketing, sales, and contact management automation. It also has scheduling and project management functions. With several editions—Enterprise, Premium, Corporate, Mobile, and Voice—it's a versatile product, Smith says. "It can be a good fit for organizations in huge companies and in 10-person real estate offices," he says.

Other software management tools include License Manager, which tracks licenses and manages software assets, and NetInstall, which automates the deployment, configuration, and management of software. The company also offers solutions for server management, virtualization management, and client lifecycle management. One of its newer products is its IT Service Management product, which is currently used by about 1,000 FrontRange customers.

Worldwide Business

FrontRange was founded in 2000 and purchased by a private equity firm in 2005, which moved the company headquarters from Colorado Springs, Colo., to Pleasanton, Calif. FrontRange's 650 employees are distributed across several global offices, and half of those employees are based overseas in such locations as France, Germany, the United Kingdom, Australia, and South Africa. About 90% of its revenue comes from those regions and the United States.

FrontRange is a good example of a genuinely international company, with its revenues almost evenly split between its North American business and its international business. "We think it's a healthy balance, and it keeps us competitive," Smith says. "In a given year, if Germany is a little slow, then the U.S. market compensates, or vice versa."

In fact, not surprisingly, the U.S. market is steady but not easy, Smith says. Germany, France, and Southern Europe remain strong markets for the company.

The company sees a lot of potential in several markets: India, Southeast Asia, South America, and Eastern Europe. Smith says that the company hopes to see significant growth in Japan in 2011, and it's already seeing some in South Africa.

About 45 countries host resellers for FrontRange, and about 60% of its income comes through that channel. In addition to those resellers, which number in the hundreds, Smith says that FrontRange also has direct salespeople in the six major markets listed above. He estimates that the company's products are being used at 150,000 companies by 3 million users worldwide. "We're the best $130 million company nobody's ever heard of," he says.

Developing & Acquiring

FrontRange spends a lot of its time in market research, hoping to stay at the forefront of what its customers are talking about, what they want, what they don't have, and even what they're mad about. Smith says doing so helps the company keep up with a market that constantly shifts as customers' needs shift. "We have hundreds of user forums in the smaller regional and major markets," he says. "It's a good way of retaining our humility, because the market has a way of teaching you a lesson if you forget what's important." Fortunately, he says, strong revenue and earnings have put the company in a good position to invest more in new products.

Acquisitions have been a significant source of change and expansion for FrontRange. The company's lifecycle management software comes from an April 2007 purchase, in which FrontRange bought Enteo, a software company in Germany that offered both the lifecycle management product and a stronger presence in Germany. In April 2008, FrontRange bought Centennial Software, which brought it the Discovery product and its Software Asset Management product. The company plans to continue looking for similarly advantageous acquisitions. "We're evaluating some potential opportunities," Smith says.

Although FrontRange has traditionally followed an on-premises or licensed model, that will change when the company launches its SaaS business later this year. Noting the success of companies using the SaaS model, Smith says that FrontRange believes it's the right move. "We plan to offer our whole portfolio eventually, starting with our IT Service Management suite starting later this year," he explains. "We chose that market because it, along with asset management, is growing very fast."

Working Harder

According to Smith, the change in economic climate has naturally led to a greater focus on value and to an uptick in customer education.

"Customers are smarter than ever because information is so readily available, and they're able to come in more educated than they used to," Smith says. "They're also more experienced, and many of them have been through an IT business application development—in fact, they're on their second or third generation."

CIOs also come under more pressure than they used to, Smith says. "We find that a lot of customers are under a lot of pressure to do more with less, and while the pressure on their budgets is greater, the need to deliver good results hasn't changed at all." That pressure comes in the form of requirements for more assets that perform more consistently and have less downtime. It also means companies are trying harder to get the most out of their IT equipment life cycle. But Smith says those challenges bring a lot of customers to FrontRange's door.

"Everything has to be faster, because it's a very competitive global marketplace," he says. "There's a great deal of recognition of IT as an organization that can help the whole business, and that makes our value proposition more attractive." P

FRONTRANGE SOLUTIONS

(800) 776-7889
www.frontrange.com

- FrontRange Solutions specializes in software applications for customer relationship management, customer service, and asset management.
- Its HEAT and GoldMine applications, designed for help desk environments and customer relationship management, respectively, are particularly popular among SMEs.
- "There's a great deal of recognition of IT as an organization that can help the whole business, and that makes our value proposition more attractive," says Kevin Smith, vice president of products at FrontRange.

FrontRange Product Offerings

GOLDMINE	CRM software that handles marketing automation, sales automation, and contact management.
HEAT	Help desk software that manages self-service help requests, email monitoring, workflow automation, and knowledge management of service content.
ITSM	IT service management that aids in management of incidents, problems, service levels, inventory, configuration, visualization change, release, availability, and self-service knowledge, as well as service catalogs.

HOW TO

Better Track Changes In Your Data Center

Monitor Changes In Networks, Servers & Software

by John Brandon

• • •

Managing change in a data center requires a great deal of perseverance. After all, changes will come fast and furious, and every IT expert knows that managing this change can mean the difference between a smooth flowing operation and one that is reactionary, prone to failures, and always in a state of confusion.

SMEs should consider how change can affect operations, not just from a governance aspect (such as the regulatory concerns for some markets) but also in terms of how changes affect the daily operations, says Rob Gardos, the CEO of GridApp (www.gridapp.com). This puts IT in a planning and management mode instead of a reactionary mode, always surprised by data center changes. In a smaller company, not tracking changes can create just as much confusion as a larger company.

"First and foremost, managers need to understand why they care about tracking change in the data center," says Gardos. "For SMEs, this is often about minimizing downtime by effectively managing change events, reducing the amount of time it takes to enact change—net result is saving money, getting a better understanding of your assets to enable better utilization of resources, and compliance with outside regulatory requirements."

Gardos says IT managers need to ask several key questions about data center changes, including which tools should be used to manage the change and why, outsourcing arrangements, what typically needs to change in the data center and why, and what tools are available to help.

"Unless they have a detailed inventory of their environment, an SME will need some type of discovery software that provides a high-level view of all the hardware/software assets within an environment," says Gardos. "If they are hoping to improve the tracking of changes, then they'll need one of the many change management systems for ticketing and data center change control. If they're hoping to drive efficiency at the server deployment level, then one of the automation solutions, especially one that is capable of managing virtual machines, will be required."

> "Unless they have a detailed inventory of their environment, an SME will need some type of discovery software."
>
> *- GridApp's Rob Gardos*

Charles King, president and principal analyst at Pund-IT, agrees that data center managers need to do a comprehensive audit of the services and hardware inside a data center before they can attempt to track the changes for that equipment. He says this audit should include establishing the age of equipment, all storage and networking hardware, and all software tools.

Planning For Change

King says that once you know which systems will change, the next step is to think about working with an outside vendor to help you manage the change and help you stay focused on providing actual services. This can be just for an initial assessment—how the data center should manage the change—or it can mean working with a company to effectively manage the changes, especially related to server usage.

"Some SMEs certainly have the requisite experience to conduct an assessment, but most are constrained by lack of expertise and/or budget to perform an effective assessment," says King. "In those cases, they are best served by engaging a trusted vendor or data center management specialist both to carry out the assessment and to provide guidance for long-term strategies."

Joyce Tang, a principal consultant with Agilisit, says another early step in managing change in a data center is to make sure end users are involved. The reason for this, she says, is that the users are the ones often impacted by the changes and might not be able to carry out their duties if a change affects them and requires their involvement.

"Getting buy-in from the actual users is absolutely critical, and this is often undervalued," says Tang. "We tend to focus on building the system and forget the human factor. While there are aspects that can be automated by the system, no amount of automation can replace human participation."

Pitfalls To Avoid

Change tracking provides many key benefits, such as IT knowing which changes have occurred at all times and being able to respond to failures and issues more fluently. But change tracking does create some new issues for smaller companies, including the time investment to make sure changes are tracked correctly and consistently. King says some smaller companies set high expectations initially on change control and then fail to stay with the plan.

"Lack of understanding and unrealistic expectations about asset performance can damage both long- and short-term efforts," says King. "This is particularly the case in companies that are trying to develop strategies around virtualization, where passive or willful ignorance can sabotage the best intentions. Another issue is the fact that the change tracking process never really ends, especially in companies that are actively using virtualization solutions and tools."

Tang reiterates the need for end-user buy-in when tracking data center changes. She says without this support for tracking, say, application servers and the features offered for departmental use, end users can quickly lose faith in IT's ability to manage changes, and the change tracking will become an initiative that loses steam. Another example could be the storage requirements and how those are tracked for departments, especially given the fact that storage needs tend to change the most as new projects emerge quickly and as the company grows. P

Key Points

- Know which systems, hardware, software, and network configs exist by performing an audit before you attempt to start tracking data center changes.
- Get end-user buy-in for the change tracking, as end users are the ones most affected by the changes to storage allocation, app services, and networking.
- Consider working with an outside vendor for an initial assessment or for managing the changes.

TOP TIPS

- Managed service providers can aid in the change tracking process, says Charles King, president and principal analyst at Pund-IT; however, IT should be engaged fully in how this process works.
- Joyce Tang, a principal consultant with Agilisit, suggests gathering technical requirements for the change tracking, such as what software is available and which hardware is required to make it work in your environment.
- Change tracking may have back- and front-end requirements. "If managers are running the software on-premises (on their own servers, at their own site), they'll need to have the appropriate servers to install the software back-end and load the Web site front-end," says Tang.

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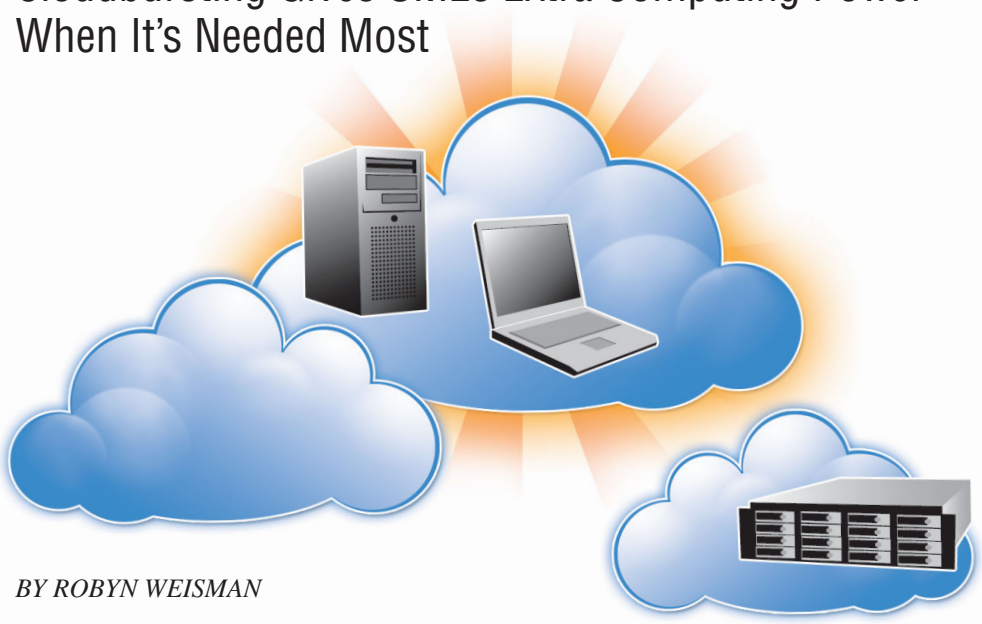
Key Points

- Cloudbursting provides data centers with the ability to immediately send capacity overflow to cloud servers without having to maintain additional server or storage capacity at all times.
- Unlike conventional cloud services, cloudbursting lets you pay only for the capacity you need at a given time, which promises to save data centers significant amounts of money.
- Several technology-related problems prevent cloudbursting from being implemented on a wholesale level, although these issues should be ironed out within the next several years.

A Burst Of Capacity

Cloudbursting Gives SMEs Extra Computing Power When It's Needed Most



BY ROBYN WEISMAN

Provisioning resources has always been a challenge for most data centers. Spikes in traffic can range from something basic, such as a retail site that knows it will face more online traffic around the holiday buying season, to something more sudden and extreme, such as the Web traffic that no doubt hit the New Orleans Saints' Web site when the team won the Super Bowl.

Traditionally, planning for these variances in traffic required IT departments to estimate future traffic needs, which often translated into having to buy more infrastructure than was often needed for daily use. Cloud computing services improved this situation to some degree, but enterprises still needed to secure and pay for more "cloud" than they typically needed.

Recently, however, the term "cloudbursting" has become a popular concept in cloud circles. "Cloudbursting is the ability to increase internal capacity by provisioning resources for the overflowing capacity on a different cloud," says Guy Naor, CTO of cloud solutions provider Morph Labs (www.mor.ph).

CLOUD SPILLOVER

In other words, cloudbursting acts as a sort of "spillover" technique that enables enterprises to quickly nab additional resources as needed to handle peak or unanticipated demands, explains Peter ffoulkes, vice president of marketing at Adaptive Computing (www.adaptivecomputing.com). "Additional resources can be sourced from a public cloud vendor to supplement internal systems that are paid for according to use and avoid the year-round cost of owning sufficient resources to meet temporary peaks in demand," ffoulkes says.

In one example, cloud provider ReliaCloud (www.reliacloud.com) provided ad agency Preston Kelly the necessary cloud capacity so that the agency's Web site could handle a brief, albeit massive, spike in traffic for a holiday charity promotion. The agency only had to pay for the increased capacity for the time it was needed, which saved it money as well as IT headaches.

Cloudbursting seems almost too good to be true—and in most cases, it still is. Several challenges remain before it is something that data centers can leverage to their advantage, many of which pertain to the way current data center networks are set up.

GETTING OVER DEPENDENCIES

Perhaps the biggest obstacle to integrating cloudbursting into most data center architectures is the logistics of applications, says Scott Morrison, CTO of security and connectivity solutions provider Layer 7 Technologies (www.layer7tech.com). "Quick provisioning of even the simplest applications is a lot harder than people think because moving applications from one location to another is problematic," Morrison explains.

"Even with something as basic as a payroll application, the setup is difficult because when you put in a username and password and authenticate it against, say, Active Directory or an LDAP directory, [it creates] a dependency," Morrison continues. "If you try to burst [this application], that piece of infrastructure isn't available because it's still hiding behind your firewall back at home base."

According to Morrison, applications will need to be redesigned often from scratch to handle cloudbursting organically. "We need compact and self-contained apps that move around easily. This will take a few years because it's a cultural design change from what we've been used to," Morrison says.

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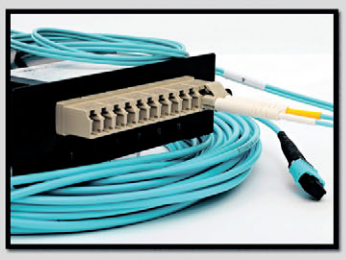

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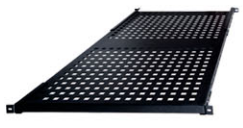

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News

Third-Party Apps Putting SMEs At Risk

Even for IT managers in SMEs, tracking security vulnerabilities can be an overwhelming undertaking. Thankfully, Microsoft's proactive approach to patching and updating eases the task of maintaining systems. But according to a new survey from Copenhagen-based security firm Secunia, the software that puts consumers and businesses at biggest risk isn't Microsoft's. Secunia claims that third-party software vulnerabilities jumped 90% between the first half of 2009 and the same period in 2010. By contrast, vulnerabilities in Windows XP and Vista increased 31% and 34%, respectively, compared to 2009.

The firm examined data mined from users of its PSI (Personal Software Inspector) to track the annual shift of the sources of vulnerabilities. PSI lets users scan their PCs to determine whether the software they are running is leaving their systems vulnerable to attack, data theft, and malware.

Protect Yourself

Secunia's Stefan Frei, research analyst director, suggests that the problem of third-party-induced vulnerabilities is compounded when you consider that most of the software makers behind these applications fail to issue regular patches and updates. Frei suggests IT managers at organizations take proactive steps in the program selection and patch deployment processes. As long as it does not conflict with business needs, another good strategy is to reduce or consolidate the number of third-party programs to which the business exposes its network. A vital aspect of this solution, according to Frei, is implementing a system and the requisite monitoring tools to identify and act upon unauthorized programs. This is particularly important because end users can install most popular applications without requiring administrative permission. "Again, the right tools and automation are key to streamlining the process in a robust and consistent way," he says.

For some, simply removing susceptible applications is the answer. For those unwilling to reduce end-user functionality, however, opting for less-complex applications can solve the problem. If an organization must rely on unsecured third-party applications, Secunia recommends applying patches as soon as they are released, identifying and tracking unpatched vulnerabilities, running filter rules on perimeter security devices, temporarily removing functionality if necessary, and getting a risk assessment. Secunia offers vulnerability assessments that can highlight problem applications and recommend tailored solutions. As Frei puts it, "Identifying the right balance between security and functionality is an individual decision for every type of business."

by Andrew Leibman

SIX QUICK TIPS

Setting Up A New Small-Business Network

Getting It Right The First Time Will Pay Off Later

by Bruce Gain

• • •

ADMINS MIGHT THINK that setting up a 50-user or similar-sized network is easy compared to configuring 750- to 1,000-user LANs or other larger-scale projects. However, designing a smaller network can also be a complex and challenging project. Between mulling the different equipment required for small LANs, coming up with a backup strategy, and preparing for the future, setting up small-business networks requires a lot of thinking before you begin the project.

Here are some things to keep in mind so that you can get the most productivity out of a small-business network.

Avoid Infrastructure Overkill

Small-office networks often do not even need their own server rooms. Cheap access to high-speed bandwidth makes it more feasible for small networks to rely on an offsite data center for more heavy-lifting data management needs, whether the data center is at a colocation facility or at the main enterprise's headquarters.

"Network bandwidth is a lot cheaper than it used to be," says Nik Simpson, an analyst for the Burton Group. "It may make sense just to have the endpoints at the office and to pull everything else back into an offsite data center and pay a little bit more for bandwidth."

Storage servers, for example, can often be located offsite, Simpson says. "People spend a lot of time and effort to update an infrastructure that really doesn't make sense in a modern environment. Instead, you can just have the Exchange server in a proper data center offsite where it is backed up and managed properly," Simpson says. "A lot of the time when you put equipment like that in small offices, it only gets managed when it goes wrong, and then it is often too late, such as when you find out that backups are not even being done."

Ensure Storage & Backup Redundancy

The need for a reliable storage and backup system is at least as important for a small network as it is for larger operations, especially for offices that are standalones for which data loss could lead to the shutdown of a business when customer records and other critical data are permanently lost. For starters, SAN or NAS servers should be set up, and data needs to be backed up on disks or tape and regularly transferred offsite.

"If you're intent on keeping it all in-house, do a disk-to-disk backup if you have the spare disk capacity and then do a disk-to-tape backup from this, using standard full and incremental cycles on the tape. Make sure that tapes are either stored in a fireproof vault or preferably are encrypted and stored offsite," says Clive Longbottom, service director for business process facilitation at Quocirca (www.quocirca.com). "Otherwise, do a disk-to-disk and then use an online, offsite backup system to take care of the longer-term disaster recovery and archiving needs."

However, despite the perils associated with lost data in the event of a disaster, many small network operations may not opt for offsite backups. "Some businesses might decide 'Hey, if my office burns down, I'm through anyway,'" says John Matzek, CEO of Logic IT Consulting (www.logicitc.com). "[These enterprises] don't care about offsite backups."

A small external drive attached to each server with a USB port may be enough, Matzek says, which is inexpensive and easy to set up. With RAID hard disk configurations and a single drive for backups attached to each server, it is possible to have a backup system in place for only $150 per server, Matzek says. "While it is not as easy to get a server back up and running compared to more robust systems, single-disk backups work fine for making sure that data remains backed up," Matzek says, adding it is also still possible to remove the backup disk regularly for safekeeping offsite for an extra layer of data protection.

Think Growth

Looking for ways to save costs is never a bad idea, but paying a little more for networking capabilities when setting up a small network can sometimes translate into money saved and productivity gains in the future. This is why it is a good idea to lay the foundation for a network that can handle added loads as it grows. "It's far easier to get it right the first time than to try and retrofit," Longbottom says.

A typical problem scenario might involve discovering that a 32-port 100Mb router needs 34 ports one month after the network was set up and that 100Mb of bandwidth is not enough to handle traffic, Longbottom says. "[This] might mean that a 64-port 1Gb switch may be required instead from a different vendor. Cables will need to be unplugged and replugged, management tools may have to be recalibrated, and access devices may need to have actions taken on them to be fully aware of the new 1Gb network and how best to utilize it," he says. "Such retrofitting costs are high and can be avoided by thinking correctly to start off with."

Future applications also need to be taken into account. For example, for not much more money, you can ready the infrastructure for video communications, says Gerhard Abeska, worldwide solution manager for SMBs at HP (www.hp.com). "I would immediately go for gigabit speeds and an infrastructure that can handle [future applications]," he says.

Best Tip:

Simple Is Best

Many features that new equipment can offer might be very compelling technology-wise, but high-end capabilities may not be worth the cost and could introduce unneeded layers of complexity to the network. For example, a small network may need managed network tools for VoIP and video applications without requiring a high-end system, says Clive Longbottom, service director for business process facilitation at Quocirca (www.quocirca.com). "Keep it simple—midrange systems will be more than enough," he says.

Most Practical Tip:

Get VoIP Now

It may be tempting just to buy traditional landline phone systems as an easy way to get the office's phones up and running, but despite the added complexity, VoIP should be a key network component, even for small LANs, says Gerhard Abeska, worldwide solution manager for SMBs at HP (www.hp.com). "There are obvious cost savings when you use VoIP," he says.

Satellite Or Small Office?

A 50-user or similar-sized network's needs can vary a lot depending on whether the LAN is for a standalone company or is a satellite office of a larger enterprise. "You have to control the networks in different ways, even though [a satellite office or standalone business network's] sizes are the same," Abeska says. "Small businesses have one location and you need a small network. But with a satellite office, that is something the IT admin needs to control [from headquarters]."

Satellite offices, for example, usually don't need a core router that a standalone small business network might require, Abeska says, and instead might only require Web-based network management tools for office needs. "With a Web-based network, you have a simple interface and you don't need dedicated management," Abeska says. "This is perfectly fine for up to 100 users." P

BONUS TIPS

■ **Tier the access.** Visitors will likely need Internet access, but they definitely do not need to access sensitive data when they are connected to the network. "For example, for wireless access, you should have a virtual LAN that is completely separate from the user network for guests with one WEP key," says Gerhard Abeska, worldwide solution manager for SMBs at HP (www.hp.com).

■ **Get the cabling right.** Just because a network is small does not mean that you do not have to worry about properly organizing workstation and server cables. "Go for at least CAT 5E cabling and make sure that you put in a good degree of structure to it," says Clive Longbottom, service director for business process facilitation at Quocirca (www.quocirca.com).

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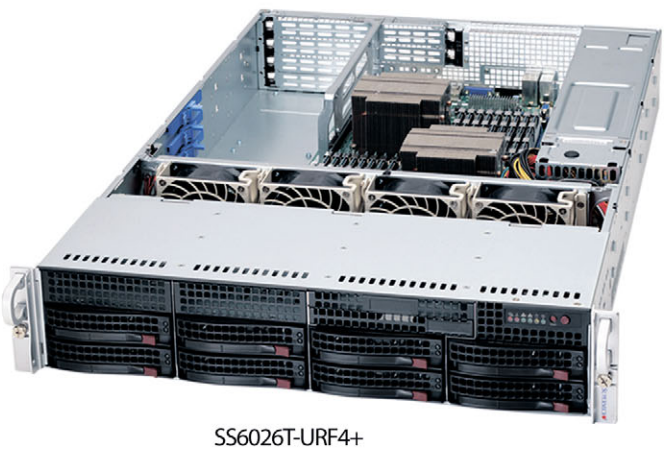

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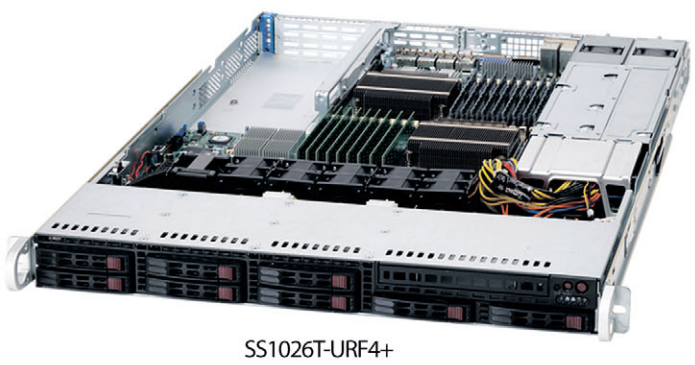

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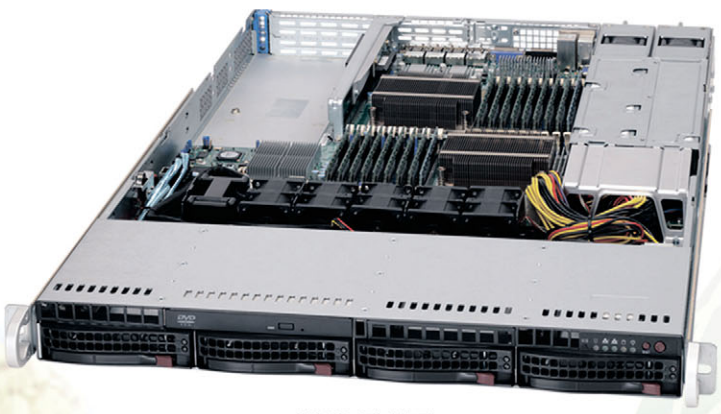

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FEATURE PACKAGE

A Well-Organized Data Center

What does it take to keep your data center organized and tidy? We talked with experts to come up with tips related to the overall layout, equipment setup, cabling, and more.

Overall Data Center Setup & Layout | 26

■ The road to a well-organized, effectively designed data center begins during the design and development phases.

Efficient Equipment Setup & Installation | 27

■ Getting data center equipment set up, installed, and organized all at the same time has its challenges. We provide tips to help.

Cable Organization & Management | 28

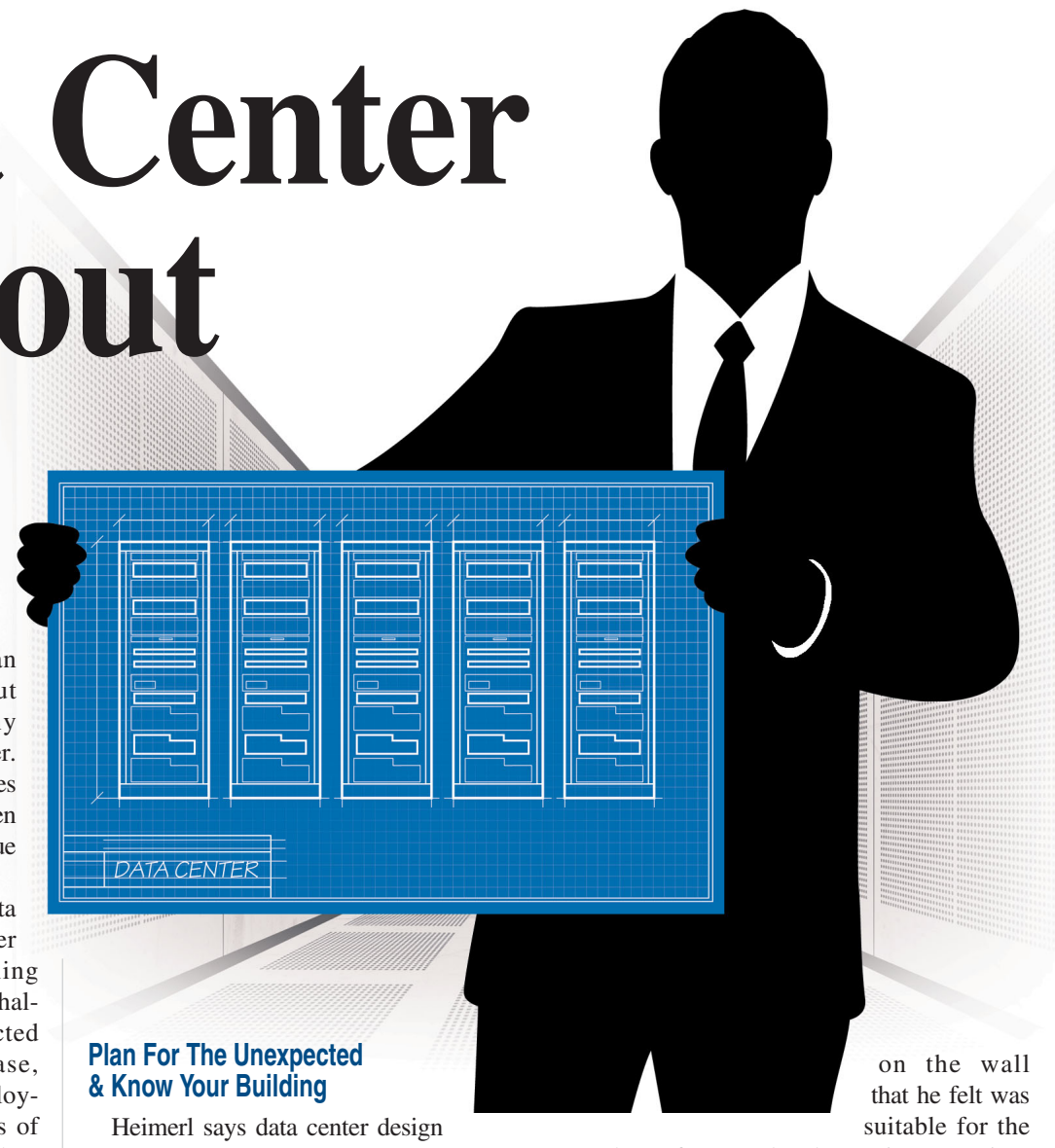
■ Putting together an organization and management plan for your cabling infrastructure is tedious and takes a lot of work. Block out some time during your business' off-hours and put together a plan that keeps some of the following tips in mind.

Dispose Of Used Equipment | 28

■ Disposing of assets intelligently helps data centers recover some of the original costs of the equipment along with keeping old servers and other hardware out of landfills and ensuring that any old data does not fall into the wrong hands.

Overall Data Center Setup & Layout

Technologies & Processes To Keep In Mind For A Well-Organized Data Center



by Sixto Ortiz Jr.

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The road to a well-organized, effectively designed data center begins during the design and development phases. It is often the case that unexpected—and unwanted—data center events occur due to flaws introduced during the data center design phase.

Fortunately, mitigating a lot of these issues is often a matter of thinking about potential problems during the data center setup and layout phase and designing around them. Doing so will ensure that a new data center is designed for minimal downtime as well as effective use of space and infrastructure elements.

Consider Virtualization & Cloud Options

Virtualization is rapidly becoming a commonplace technology in use in many data centers. That should come as no surprise: Virtualization can greatly reduce server sprawl while maintaining the processing capabilities business applications need to work most effectively. Minimizing server sprawl can greatly contribute to a well-organized data center simply by reducing the amount of hardware that needs to be hosted.

Bradley Brodkin, president of HighVail Systems (www.highvail.com), says a good first step during the data center setup and layout process is for administrators to look at all existing applications, services, and processes currently running in the data center to determine the amount of application load that can be consolidated on a virtualized server, farm, or private cloud to achieve higher resource utilization.

However, virtualization is not a cure for all ills. Jon Heimerl, director of strategic security at Solutionary (www.solutionary.com), says administrators should ensure that they balance applications that have different demand cycles on the same hardware and stay away from, for example, packing a single server with 60 virtual systems that all have their highest demand cycle between 12 and 2 p.m. on weekdays. It's important to understand that virtualization can potentially increase overall system utilization and power use, Heimerl says.

Along similar lines, Brodkin says a public/private cloud can provide flexibility by allowing administrators to plan for balanced loads and farm out computing power to meet infrequent peaks and valleys in requirements.

Implement Cable Organization

Cabling may seem like a pedestrian task, but effective, well-thought-out cabling design can mitigate many headaches during the life of a data center. Dealing with a rat's nest of tangled cables is not a good use of time, especially when the clock is ticking and a data center issue needs to be promptly resolved.

Michael Frank, vice president of data center services at Internap (www.internap.com), says properly sized cabling makes it easier to troubleshoot any challenges that may arise in interconnected equipment. During the design phase, admins should avoid landing on deployments that result in confusing tangles of wires that cannot be easily traced when equipment problems occur. Also, designing tight turns and bad bends can degrade signal quality and limit throughput.

Key Points

- Done effectively, data center setup and layout can help mitigate potential issues and result in more effective operations.
- Documentation during the development and construction phases is critical for the success of future modifications, retrofits, or troubleshooting.
- Even seemingly pedestrian elements such as cabling and rack types can impact data center operations later.

Purchasing the correct power strips allows for power cables to be neatly routed and managed. For example, says Frank, the use of vertical and horizontal power strips is dependent on the overall design and the cabinets or racks into which equipment can be deployed. Finally, Frank says, administrators should develop a network plan that anticipates growth so cable runs and connection points can be minimized. Shorter cable runs and fewer connection points improve troubleshooting and minimize points of failure, he says.

Heimerl says admins should include support for additional equipment in their cable capacity planning, such as environmental sensors, tamper indicators, and surveillance camera needs. For more information on smart cable management, see "Cable Organization & Management" on page 28.

Plan For The Unexpected & Know Your Building

Heimerl says data center design should include planning for unexpected events. For example, he says, even though a raised floor may not be needed because everything is supplied from above, administrators should not ignore the fact that the raised floor provides another function. Heimerl tells the story of a data center located in a building basement that did not have a raised floor. When a fountain at the front of the building leaked, 3 inches of water flowed into the data center, causing rack power supplies located close to the floor to short out. And, he adds, the data center had no floor drain, so water had to be manually bailed out.

Heimerl also advises admins to maintain an accurate "as-built" blueprint of the data center that clearly shows where key infrastructure items such as utilities and cabling are located. Heimerl cites an engineer who worked on an upgrade at a data center and needed to cut a hole in a wall to run new conduit. The engineer did not have drawings available, so he cut the hole in a spot on the wall that he felt was suitable for the task. Unfortunately, the engineer cut into the sewer line for the five-story building where the data center is housed. The hole in the line promptly drained 6 inches of sewage into the data center. Sadly, the data center also lacked a floor drain.

Pay Attention To Cabinets & Racks

Internap's Frank says facility administrators should procure properly sized cabinets and racks with adjustable mounting rails to allow for the placement of equipment both today and in the future with less chances for complications as IT equipment changes.

Also, he adds, IT administrators should understand the cabinets or racks available in the data center because these will sometimes dictate what equipment will work and what won't, as well as any special equipment required, such as shelves or sliding rails. Administrators should also watch the cabinet depth and width, especially if vertical mounted power strips, wire managers, and relatively deep servers are used. P

Top Tip: Start By Talking To Stakeholders

Stephen Johnson, senior vice president for critical environments at Primary Integration (www.primaryintegration.com), says early planning activities will identify all relevant issues and establish parameters for moving forward in an effective manner. According to Johnson, the process starts by identifying all stakeholders in the facility and ensuring that they are able to provide input early in the process. Stakeholders include facilities and IT personnel, designers and engineers, commissioning agents, high-level contractors, manufacturers and vendors, and anyone else ultimately responsible for data center performance.

Based on this input, he says, administrators can lay out the vision of the facility and use the planning process to translate that vision into a clear set of documents detailing the needs, deliverables, and project schedule.

FEATURE PACKAGE

Efficient Equipment Setup & Installation

Track & Manage Equipment Before & After It's Installed

by Chris A. MacKinnon

• • •

THERE'S A WAY around mountains of cable, dust, and data center clutter. Verbs such as tracking, measuring, establishing, and ensuring are the key to a well-organized data center. When you get down to the foundation of such a data center, you find equipment setup and installation among the main pillars. But being set up, installed, and organized all at the same time has its challenges. Here are a few tips to help you achieve your organizational goals.

Track The Data Center's Configuration

Traci Yarbrough, director of product marketing for data center software solutions at Emerson Network Power (www.emerson.com), says that amid ever-changing business demands, data center managers are constantly dealing with the need to add equipment to improve the networks, servers, power infrastructures, or cooling systems while simultaneously optimizing efficiency. But Yarbrough says that before a data center can operate efficiently, IT and facility managers—both of whom are heavily involved in data center management—must first understand how the current data center is being run in order to determine the best location for new equipment.

Key Points

- Data centers operate more efficiently when IT and data center managers understand how the current data center is being run in order to determine the best location for new equipment.
- Data center managers should have the environment professionally cleaned before turning on any equipment in a new or expanded data center space.
- It is a good idea to use management tools and performance metrics to ensure that new equipment is properly installed and monitored in order to meet efficiency objectives and comply with SLAs.

"To receive a full, comprehensive view of how the data center operates, IT and facility managers must be able to effectively track the data center's configuration to analyze the interconnections and relationships between the data center components," she explains. "This holistic view of the data center is essential to determining the optimal location of the new equipment, so as not to negatively impact systems already in place, and to maximize the efficiency and performance of new deployments."

Keep It Clean

Kevin Vickery, president of ProSource Mission Critical Services (www.team-prosource.com), says that before turning on any equipment in a new or expanded data center space, data center and IT managers should ensure that the environment is cleaned by a professional data center cleaning contractor that can safely and effectively remove contamination that could adversely affect hardware performance.

Vickery says this includes cleaning below and above the raised floor. "Take care to ensure that the concrete subfloor plenum surface has been encapsulated to provide for a clean environment for your equipment to operate," he says. "Data center cleaning professionals can provide this service during the construction phase prior to equipment and cabling installation. Dust created by unsealed concrete is one of the major sources of contamination in raised-floor data centers."

He continues, "Ensure that all openings in the raised floor have been sealed to ensure that all cooling comes through airflow panels to prevent bypass airflow and properly cool your equipment. This will ensure that your cooling system operates as effectively and efficiently as possible, thereby saving energy."

Vickery says it also helps to ask the cleaning professional to provide an ongoing maintenance plan to help ensure that your critical environment maintains the appropriate level of cleanliness for your hardware to operate effectively and efficiently over time.

Enforce Policies With Management Tools

When it is time to conduct equipment installation, data center management will have already determined whether it is best to implement changes as an independent solution or as a synergistic one that incorporates other systems in the IT service management domain, such as finance, Yarbrough says. "A well-organized data center will have a process management tool in place for both types of solutions," she says. "Process management tools are generally configurable and directly notify the appropriate people and management staff responsible for specific tasks at appropriate times during the equipment installation."

Yarbrough says the process management tool should also help to reduce the risks associated with new equipment changes. "By automating the equipment installation process, the amount of time spent per installation will be significantly reduced, saving money," she says.

Measure & Track Key SLA Metrics

In Yarbrough's opinion, today's data centers are evaluated based on their ability to execute company objectives, keep pace with changing technology, and meet the demands for greater efficiency. She says a well-organized data center will have a way to track its progress against the specific SLA metrics outlined for that data center. "Before the installation process begins and immediately after it is complete, present ideal times for the data center manager to note the status of the data center and document the progress, as well as compare it to the SLA metrics," she says. "The results of the installation should reaffirm the initial goals and aid the organization in their everyday operations."

Yarbrough says that even without the act of a new installation, data center managers should also have a system in place to look for ways to maintain and improve IT service quality through a constant cycle of aggregating, monitoring, and reporting system information. Equally important, she says, each data center should set its own schedule of evaluation to optimize performance.

Top Tip: Define A Process For Installing Equipment

According to Traci Yarbrough, director of product marketing for data center software solutions at Emerson Network Power (www.emerson.com), once IT and facility managers have assembled a complete view of the data center to determine the optimal placement for the new equipment, it's important to coordinate the installation process while working to reduce the impact of any related incidents that could adversely impact the productivity of the organization.

"To ensure that standardized methods and procedures are used for efficient and prompt handling of all changes in the data center, organizations should create a document that outlines best practices for the installation of equipment," she explains. "This document will guide those involved in the installation on how best to decrease back-out activities, diminish the disruption of services, and utilize the economic resources involved with the new installation."

News

Gartner Establishes Cloud Computing Bill Of Rights

Gartner and its Global IT Council for Cloud Services has released a list of guidelines for cloud computing service providers. The council includes CIOs and Gartner analysts. The guidelines, which are referred to as a "bill of rights," are designed to help cloud computing service providers adequately meet the needs of their consumers in regards to their most pressing concerns. The bill of rights includes "the right to retain ownership, use, and control [of] one's own data" and "the right to service-level agreements that address liabilities, remediation, and business outcomes."

Mobile App Downloads To Top 25 Billion By 2015

Downloads of mobile apps aimed at consumers are estimated to top 25 billion by 2015, according to Juniper Research. Last year, downloads numbered just 2.6 billion. Somewhat expectedly, the researcher states that credit for the massive rise in downloads goes to the increasing number of dedicated app stores that network operators and vendors are launching. In a press release, Juniper Research says that "players across the mobile value chain are seeking to emulate Apple's success with the App Store by launching own-brand storefronts." Examples include China Unicom's Mobile Market, Bharti's Airtel App Central, and the Apps & Games Shop on Vodafone 360. Juniper also reports that more established storefronts such as GetJar, which passed the 1 billion download mark in July, have benefited from the transition to an app-centric environment.

GPS Integration In Cell Phones To Near 80% By 2011

iSuppli research shows that by the fourth quarter of next year, 79.9% of all cell phones shipped (about 318.3 million units) will include GPS functionality. That's up from 56.1% in 2009's first quarter (187.9 million units). iSuppli states that smartphones are driving the GPS adoption, and smartphones are taking over PNDs (portable navigation devices) as the major navigation platform. By 2014, the research group predicts that usage of navigation-enabled smartphones will top PNDs. iSuppli cites social networking services and location-based apps as driving the increase, stating that Apple's iPhone already has 6,000-plus location-based service apps available. In association with location-based services, iSuppli states that companies such as Apple and Google are turning their focus to mobile ads. iSuppli also predicts that 18% of notebooks and 42% of handheld gaming devices will imbed GPS capabilities by 2014.

SAP Grows Revenue, Profit

Exchange rate fluctuations helped to accentuate SAP's good second quarter, according to the company's latest financial results. The German giant's software and software-related services segments drove it to 12% greater revenue on an annual basis. Basic earnings per share rose 14% year over year, while operating profit climbed 21%. After-tax profit came in at a more sober 491 million, up 15% from the second quarter of last year.

FEATURE PACKAGE

Cable Organization & Management

Though Easily Overlooked, Cables Are Integral To A Well-Organized Data Center

by Robyn Weisman

• • •

Cables in the data center lend themselves to a variety of fairly unflattering analogies. "The stuff piles up like books on a coffee table," says Rudy Rangel, sales manager at IT equipment vendor Rackmount Solutions (www.rackmountsolutions.net). "It takes discipline to organize them, but it's easier said than done."

Key Points

- Determine where your cables originate and where they run to.
- Provide detailed labels for each cable and color code groups of cable.
- A good wire management scheme keeps cables neat and out of the way of your equipment.

Unlike those books, however, haphazard cables are, at best, a nuisance and, at worst, a danger. "Mismanagement of cables can lead to significant lost revenue from unnecessary downtime," says Nick Schmidt, senior manager of IT infrastructure at CDW (www.cdw.com). "Cable management is the foundation for space maximization, overall performance, safety, and cooling efficiency."

Putting together an organization and management plan for your cabling infrastructure is tedious and takes a lot of work, particularly if you've inherited several nests of tangled, lint-covered wiring from your predecessor. Block out some time during your business' off-hours and put together a plan that keeps some of the following tips in mind.

Determine Your Sources & Isolate Them

Start out by going to your various sources, most commonly your servers, and determining what cables are running from them, Rangel says. Check out your switches and patch panels and anything else that leads to wires sticking out of your racks. Once you've done that, trace each cable and figure out where it runs.

Then, isolate and consolidate your sources. "If you have stuff spread over three racks and can fit them into one, that would be ideal. If you don't need [certain] ports, and they have cables plugged into them, take them out," Rangel says.

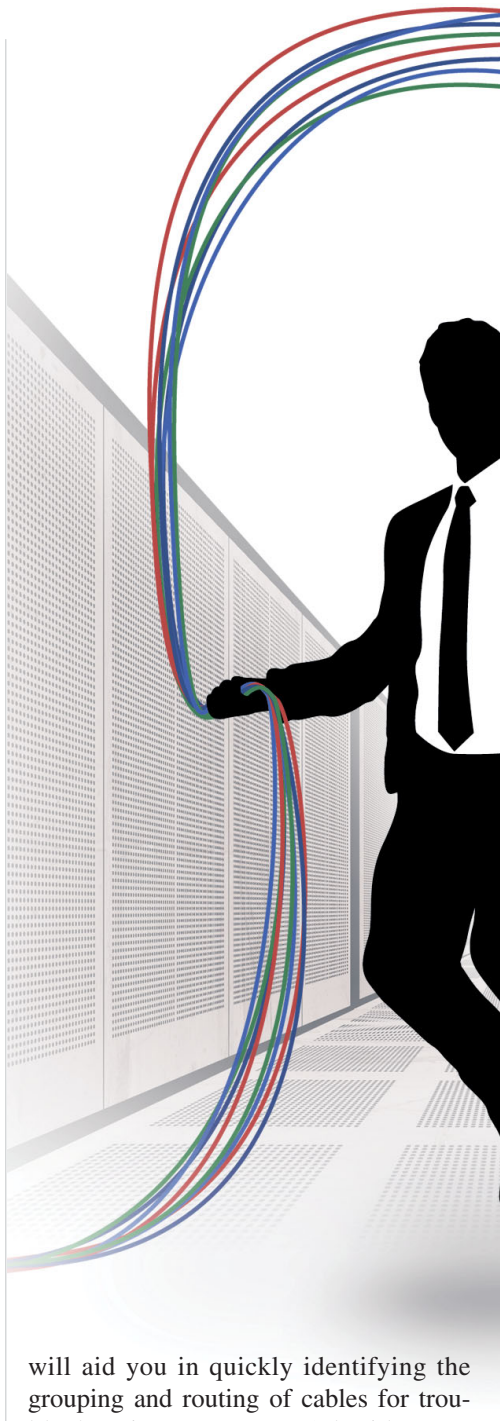
CDW's Schmidt adds that you should plan on replacing up to 30% of your current cabling as you reorganize your cable infrastructure. "Cables will often stretch, kink, cut, or break during the removal phase of getting organized," he says.

Rangel recommends that you make sure your ports are running properly and that your existing wire management can handle additional equipment. "If you add 10 people to your company, you probably are going to run at least 10 more lines. Make a note to go back to check everything," Rangel says. "You may be running and gunning when you first set everything up, but without gradual maintenance, in six months time, you're right back where you were."

Label & Color-Code Each Cable

Generate a detailed label using a label printer for each patch cord and network cable so that you can easily tell where the wires are going and to what devices they connect, says Christina Hansen, product specialist at CableOrganizer.com (www.cableorganizer.com). "It's a time investment when you're doing it, but compared to having to dig through cables when trying to fix a problem, it's a huge difference. If you're walking into a situation [that's a mess] right up front, taking care of this will make your job easier," she says.

In addition, developing a cable color-coding plan in conjunction with labeling will aid you in quickly identifying the grouping and routing of cables for troubleshooting purposes, Schmidt says.



Dispose Of Used Equipment

Reputable Vendors Are Key To Properly Handling Outdated Assets

by Phil Britt

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As data centers and the demand for capacity and faster processing grow, managers are faced with the dilemma of disposing of a wide variety of equipment in conditions ranging from equipment that's still useful but no longer needed by the company to equipment that's long outdated.

Disposing of these assets intelligently helps data centers recover some of the original costs of the equipment, keeps old servers and other hardware out of landfills, and ensures that any old data does not fall into the wrong hands. Following are some tips on how best to handle asset disposal when it comes time for a hardware refresh.

Involve Stakeholders & Accounting From The Outset

Involving stakeholders helps protect against surprises from management, the business office, or the data center managers about the acquisition of assets, the expected refresh cycle, or the disposal of equipment, says Steve Suesens, category manager at Staples Technology Solutions (www.staplestechnologysolutions.com), a division of office supply firm Staples that works with data centers and other business customers. "All [stakeholders] play a key role in mitigating risk and maximizing the value the data center gets out of its equipment."

Equipment disposal involves more than the proper removal of the hardware and software and deletion of data—the accounting treatment is critical, as well, Suesens says.

Suesens recommends using an accelerated depreciation rate of 10% per month. This means the firm would carry an asset at 100% of purchase value the first month, 90% the second month, 80% the third month, and so on. At that rate, the equipment should be fully depreciated by the end of its useful life. If the data center needs to dispose of some equipment before it is fully depreciated, it needs to notify accounting of the disposal. This enables accounting to write off the remaining book value, which is essential for tax and financial reporting purposes.

Additionally, there is likely a maintenance or software license contract for the asset. The accounting office needs to know of the asset disposition so that it can stop paying for renewals of any of these contracts, says Cliffie McKay, director of operations at DMD Systems Recovery (www.dmdsystems.com).

Ensure Complete Data Deletion

When disposing of hardware, it is likely to be beyond its useful life, though there can be some residual value in the raw materials. It's a different story for any data remaining on the equipment, however. An email server can have company intellectual property or personal information about some customers or employees, and other equipment can have similar data. Simply deleting information from the storage device may not completely remove all sensitive data, and if data isn't properly destroyed, it can easily fall into the wrong hands.

Although some of this data might seem to have little or no value, any data breach could result in a violation of privacy, or in some cases, HIPAA violations, adds Barb Rembiesa, president of the International Association of IT Asset Managers (www.iaitam.org).

Many firms that specialize in data destruction will allow the customer to inspect the drives or other storage media to

"Color coding allows for the IT staff to identify and route cables based on purpose. For example, cables that are connecting IT security devices may be red to heighten attention during installation, while virtual server hosts cables may be blue to identify the increased importance of the host server connections," he says.

Design A Smart Wire Management Scheme

Cables can be managed in a number of ways so that they don't crisscross and crowd your equipment. You risk nullifying your cooling, power consumption, and overall data center performance plans without a cable management strategy. For example, cables that accumulate in the back of racks prevent servers from properly dispersing heat, while those hanging around in the front of racks complicate your ability to access servers.

Rangel recommends vertical and horizontal wire management schemes, which typically consist of channel rack mounts attached to the sides or tops of racks and cable ladders that wend their way overhead. Both methods work to keep cables away from equipment while keeping the cables themselves protected and safe. Nevertheless, there are issues with this strategy, particularly if your mass of cables is as big around as a boa constrictor.

Schmidt prefers using overhead cabling when adding new cables or accessing existing cables. "To maximize efficiency, copper, fiber, and power cabling should all be done overhead because this reduces installation costs and can accommodate growth without excessive disruption to existing equipment," he says. "Overall, overhead cabling is easier to install and therefore easier to keep organized."

Rackmount Solutions sells a fairly new product called Neat-Patch (www.neatpatch.com), a 2U rackmount unit that sits between patch panels in a server rack and offers an innovative way of managing and protecting cables. Neat-Patch solutions make use of patch cords that are slightly longer than necessary, providing just enough room to connect two adjacent patch panels in a rack and have a loop that protects the bend radius of the cable, eliminating attenuation. "When you're done making connections and loops, there's a panel that snaps on to cover the actual patch cord compartment," Hansen explains. "You see where each connection goes, so it's easy to connect and disconnect servers because [the cables] are laid right out there for you." P

Top Tip: Measure Your Cable & Keep Spares On Hand

Nick Schmidt, senior manager of IT infrastructure at CDW (www.cdw.com), and Rudy Rangel, sales manager at Rackmount Solutions (www.rackmountsolutions.net), both recommend taking the time to measure and use appropriate cable lengths. "Get rid of some of that slack," Rangel says. "Do you need a 50-foot cable when [your server] is only 10 feet away?"

Schmidt suggests that when calculating cable length, make sure you factor in additional inches for devices that will be moved in and out of racks, such as a server on rails. "And properly secure any excess cable with hook-and-loop wrap in a manner that does not impede air flow and permits easy access to labeling," he says.

In addition, Schmidt recommends keeping a stock of cables handy. "This will help you stay organized down the road when installing new equipment," he says.

Key Points

- Management, the business office, and the data center should work together so that assets are purchased, used, replaced, and disposed of on a regular schedule.
- Make sure that data is removed completely from any equipment scheduled for disposal.
- Use documentation, make a site visit, and talk to other customers to ensure that any asset disposal firm is reputable and meets the needs of the data center.

ensure the data deletion. Suesens recommends that the data destruction firm follow U.S. Department of Defense standards, with documentation citing the standards and the firm's data destruction policies.

Even if working with a reputable disposal firm, insist on a certificate of destruction, which will help protect the data center from liability if the equipment surfaces again, according to McKay and Andrew Bauer, CFO of PlanITROI (www.planitroi.com), an asset disposal services provider.

Additionally, data center managers should ensure that any outside firm hauls away disposed hardware in a secure vehicle.

Work With A Reputable Disposal Firm

As the first two tips highlight, disposing of data center assets is more than just setting out old equipment with the weekly trash. Even in a larger data center with a fairly regular and ongoing disposal schedule, there is likely not enough work to devote an in-house expert to the job (including wiping data and seeing the equipment to its final destination), so most data centers will use an outside firm for the asset disposal.

But even if the outside firm produces all the proper paperwork and has a good sales pitch, there could still be liability issues for the data center if the firm doesn't follow proper disposal procedures (such as ensuring complete data destruction and not "dumping" hardware). McKay recommends visiting the asset disposal firm onsite and inspecting the disposal procedures. He also recommends asking the disposal firm for references, which should be thoroughly checked.

Be Aware Of State Disposal Regulations

Whether a data center uses an outside disposal firm or has the resources to handle the disposal itself, dumping equipment in a landfill is not environmentally sound and could result in fines leveraged against the data center for improper disposal of hazardous equipment. Many older monitors have cathode-ray tubes that contain harmful chemicals that could leach out. Similarly, other equipment uses lead acid batteries or other toxic material.

Suesens recommends working with battery manufacturers or sellers of other materials, which often have their own disposition programs, alleviating the data center of the environmental liability headaches. Some of these vendors will also provide a discount on future purchases.

Most importantly, Suesens says, "Have a disposal plan that goes from production to destruction." P

Top Tip: Plan Ahead

Barb Rembiesa, president of the International Association of IT Asset Managers (www.iaitam.org), recommends that data center managers plan the disposition of assets prior to acquisition.

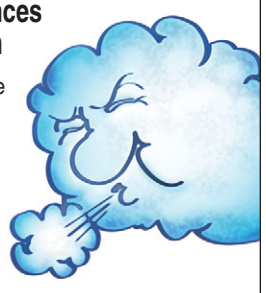
"You need to have a business perspective prior to acquisition," Rembiesa says, meaning IT should have plans in place to dispose of equipment in one year, three years, five years, or over some other life cycle. Perhaps the data center can eke a few extra months out of a piece of equipment, or there might be an occasional opportunity to take advantage of a sale, or business might unexpectedly develop that necessitates some faster-than-planned retirement of equipment, but most disposals are likely to follow the planned schedule if it's well-thought-out, according to Rembiesa.

The disposal plan should also include details about moving useful data to other equipment and thoroughly destroying all other data prior to disposal, Rembiesa says.

"We always tell our clients to plan ahead," agrees Andrew Bauer, CFO of PlanITROI (www.planitroi.com), an asset disposal services provider. "We tell clients to understand the value of their assets so that they can be less reactive when it is time for disposal. Data centers need to plan their refresh cycle; that is the whole key to a successful asset disposition program."

News

Google Announces Wind Power Push



Google appears to be going green in a big way. In late July, the company began buying wind power from the NextEra Energy Resources Story County II power plant in Iowa. The plan is to purchase 114 megawatts per year at a fixed rate for 20 years. Several data centers will be supported by the move, which will, according to Urs Hoelzle, senior vice president of operations at Google, be "giving the developer of the wind farm financial certainty to build additional clean energy projects." This follows other recent efforts by Google at environmental responsiveness, including installing solar panels at its corporate headquarters.

Consumers Look To Social Networks For Company Information

Though 70% of consumers want to interact with companies using social networks, only 30% of businesses are prepared for it, according to a survey by Yankee Group and Siemens Enterprise Communications. The majority of consumers surveyed say that they look for company information on social networks, such as Facebook and Twitter, and companies that fail to get onboard are putting themselves at risk. Consumers also report a 65% satisfaction rate with their current business interactions on social networks, and 60% say company outreach through social media will make them more loyal to that company. The study found that company policies against social media at work, or the lack of any such policy, limits many enterprises from excelling in the social media market.

Juniper To Acquire SMobile Systems

Juniper announced it will acquire SMobile Systems, an Ohio-based mobile security company that produces software for various mobile OSes, including Android, Apple, RIM, Nokia, and Windows. Juniper says it will move SMobile's technologies into its Junos Pulse platform, which is part of Juniper's Junos OS, in hopes to create a comprehensive mobile security solution for users, says Mark Bauhaus, Juniper executive vice president and general manager of the Service Layer Technology group. The deal is expected to be valued at about $70 million; Juniper will gain about 30 new employees.

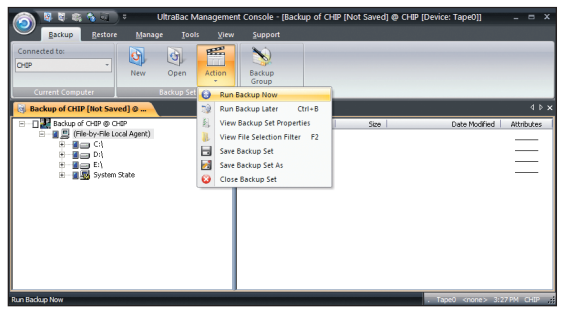
Data Breach Investigations Report Released

Verizon Business, in collaboration with U.S. Secret Service, released the 2010 Verizon Data Breach Investigations report. The study indicates a decline in the number of compromised electronic records—285 million in 2008 to 143 million in 2009. Verizon credited the Secret Service for enabling a more expansive look into the patterns of cybercrime. The report revealed that nearly all data was breached through servers or online applications, 48% of data breaches occurred due to employee misuse of access to company information, and 40% of the electronic records were compromised due to hacking. The study suggests restricting and monitoring privileged users and watching for "minor" policy violations to prevent data loss.

STORAGE PRODUCT SPOTLIGHT

Disaster Recovery

	Bus-Tech MDL-4000	C7 Data Centers Disaster Recovery	Consonus Business Impact Analysis
Product		C7 DATA CENTERS	consonus Get IT. Virtually anywhere.
Description	Bus-Tech's Mainframe Data Library 4000 is a tape-on-disk controller that offers mainframe environments the performance and disaster recovery advantages of open systems technology. The MDL platform is designed for high availability and can deliver more than 1GB of data per second. The MDL scales from four FICON/ six ESCON channels and 512 tape devices to eight FICON/12 ESCON channels and 1,024 tape devices. • Two to four redundant, independently operating emulation nodes • Two redundant access control points • Ability to attach large-scale storage arrays • Full RSA PKI data encryption **Best For:** Streamlining mainframe backup and transport times for offsite disaster recovery while increasing data security. **Price:** Starts at $145,250	C7 Data Centers provides a colocation service geared toward disaster recovery and data backup. Customers start with the Full Cabinet Special option and customize it to fit their needs. C7 Data Centers also provides ESX virtual servers that can be used as part of a hybrid solution to reduce downtime during switchover to primary. • Low power rates • Full cabinet is 42U in size, uses 20A/110V power, and offers 5Mbps bandwidth • Migration services available **Best For:** Companies that want a colocation solution for their disaster recovery needs. **Price:** Starts at $688	BIA (Business Impact Analysis) from Consonus is an information-gathering exercise that helps companies assess disaster prevention and recovery needs. Consonus sends experts to interview key stakeholders within the company to discover threats and vulnerabilities so that a business continuity plan can be created. • Indentifies critical business processes and IT services • Determines business case and requirements for continuity • Performs IT risk assessment and outlines applicable disaster scenarios • Helps identify costs linked to failures, such as replacing equipment and loss of cash flow **Best For:** An SME that wants to create a disaster recovery strategy with expert input. **Price:** Starts at $25,000

	PlateSpin Forge	Rackspace Data Replication Services	UltraBac
Product		rackspace® HOSTING	
Description	PlateSpin Forge is a disaster recovery hardware appliance that protects both physical and virtual server workloads using embedded virtualization technology. In the event of a production server outage or disaster, workloads can be rapidly powered on in the PlateSpin Forge recovery environment and continue to run as normal until the production environment is restored. • Protection for up to 25 server workloads • 32GB memory • 3.5TB internal capacity • iSCSI or Fibre Channel expandable **Best For:** Companies that need an easily configurable disaster recovery solution. **Price:** Starts at $39,395 (10 workload capacity)	Rackspace offers a suite of hosting solutions that protect, replicate, and help recover your data if an outage or disaster occurs. Rackspace can help you determine the right solution for your particular technical and budget requirements. Each solution is fully managed 24/7/365 by Rackspace's experts and backed by its Fanatical Support. • Managed Backup tape- or disk-based backup to minimize data loss • Host Based Replication Services to replicate your server data for geo-redundancy between Rackspace data centers • Enterprise Replication Services to replicate file- and block-level data between Rackspace data centers using dedicated SAN or NAS arrays • Customized solutions to address your disaster recovery needs via Rackspace's Professional Services group **Best For:** Storing or replicating critical data, servers, or apps in secondary, geographically dispersed locations.	UltraBac is a software solution that features multiple tools for file-by-file backups and is specifically designed for the latest Windows operating systems. It includes encryption, Exchange backup, and a scheduler that allows for customized backup times. • Compressed disk-to-disk backup to reduce disk storage requirements • Can back up and restore an active Windows cluster • Express Index pinpoints exact location of files on tape to improve restore times • Backs up locked exclusive files and files that are open at time of backup • Single Mailbox Backup to individually back up company mailboxes **Best For:** Companies that need a wide range of backup solutions for all types of data.

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Josh Compton

Consonus Disaster Recovery Assessment

Consonus' Disaster Recovery assessments can help SMEs build effective disaster recovery plans that address data recovery, hardware, and software as well as IT personnel, facilities, and recovery procedures that enable them to restore critical IT services in the event of a disaster.

- Defines scope and objectives
- Captures requirements
- Documents current capabilities (operational baseline)
- Analyzes gaps
- Recommends future state

Best For: SMEs looking for a disaster recovery plan that covers all of the essentials.

Price: Starts at $10,000

InMage

InMage's core product is a software-based solution that provides disk-based data protection and application-aware recovery. It can help minimize or eliminate the use of tape for data protection by front-ending existing tape-based configurations.

- Disaster recovery for any application that supports long-distance requirements using IP-based networks
- Automates application recovery in addition to recovering data
- Includes hybrid technology that eliminates backups while supporting RPO/RTO requirements
- Preserves existing data protection products and processes by supporting heterogeneous servers and storage

Best For: Enterprises that need to meet stringent disaster recovery requirements while eliminating the impacts of local backups in heterogeneous environments.

Price: Appliance starts at $5,000; data taps between $1,500 and $4,000 (one per server)

Of Special Interest To Health Data Centers

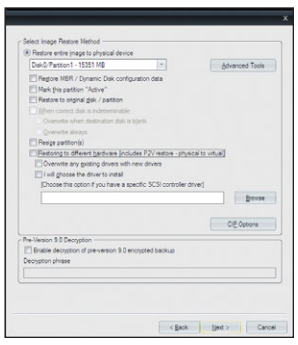
Iron Mountain Digital Record Center For Medical Images

Iron Mountain's Digital Record Center for Medical Images is a cloud storage service for both backup and archiving of radiology, cardiology, and all other digital medical images. Options include onsite, offsite, and hybrid storage for data backup.

- Low-cost, highly secure, and accessible storage
- Access, preservation, and migration handled by Iron Mountain
- Eliminate manual backup processes
- Helps meet privacy and security regulations such as HIPAA
- Three service plans: Mirrored Cloud, Hybrid Cloud, and Hybrid Cloud2
- Optional onsite storage
- Data Shuffle Service for moving large amounts of data to Iron Mountain's data center

Best For: Optimizing storage for both backup and archiving for hospitals and health organizations of all sizes.

UltraBac UBDR Gold



UltraBac's UBDR Gold is software that provides image backup and disaster recovery for information on physical or virtual servers. UBDR Gold can be licensed independently or integrated with UltraBac file-by-file software.

- Performs dissimilar hardware restores, including one or more disk partitions
- Features physical-to-virtual, virtual-to-virtual, and virtual-to-physical disaster recovery
- Restore failed machines to their previous operational status at up to 7GB per minute
- Automatic backups and restores for remote sites without local administration
- Optional agents for VMDK, UltraCopy, Tivoli Storage Manager, SFTP/FTP, and media libraries

Best For: Companies in need of physical and/or virtual backup solutions.

Vision Solutions Double-Take For Windows

Double-Take for Windows from Vision Solutions is a high availability and data protection solution for Windows environments. It features replication and failover technology that captures byte-level changes in real time.

- 64-bit support
- Hardware- and application-independent for use with any hardware or software options
- Integrates with existing backup solutions
- Allows multiple production servers to use the same target server
- Unlimited distance replication so disaster recovery sites can be in any location

Best For: Companies that need a data backup solution designed for Windows servers.

Vision Solutions EchoStream For AIX

Vision Solutions' EchoStream for AIX is an AIX-specific software suite that provides real-time data replication and allows for quick recovery in case of disaster. EchoStream can also recover deleted or damaged data from any point in time.

- Vision RightTime CDP for flexible recovery
- Vision TimeView allows you to run backups from replicated data and validates role swap in case of disaster
- Vision IntelliStart provides guided installation and auto-discovery of system environment
- Vision AutoGuard includes advanced automation, monitoring, and alerting

Best For: Enterprises that use AIX environments and need a suite of disaster recovery solutions.

News

IDC: Enterprises Want Private & Public Clouds

A recent IDC survey of executives in the Asia/Pacific region found that enterprises want to use a mix of public and private cloud services. The "Cloud Services and Technologies End-User Survey" covered the major markets of Australia, Hong Kong, China, India, Korea, and Singapore. Chris Morris, IDC's lead analyst for cloud computing in the Asia/Pacific region, says the results are "not dissimilar" to what IDC has seen in the United States and Europe.

"What is different is that within [the Asia/Pacific region] users have been slower to start adopting cloud services but, in my opinion, faster to generate a measurable bias to a private cloud implementation," Morris says.

He says there are two reasons for this. The first is that most public cloud services are hosted in countries outside the Asia/Pacific region. This leads to data sovereignty problems, because most markets in that region require certain data types to be hosted within national borders, Morris says. The second reason for a private cloud bias in this market is that there is "potential for less predictable performance from possible network latency," he says.

IDC defines a public cloud as one that is open to a wide range of users and is designed for a market, not a single enterprise. A private cloud is designed for a specific enterprise, and access to that cloud is restricted to users within that enterprise. Private clouds are internal shared resources where IT is the vendor of those shared services to its users.

"Interest in the use of private clouds is being reported to be running at a high level not just by our surveys but by IT infrastructure product providers and IT and telco service providers," Morris says. "2011 will be a year of very strong growth for vendors providing technologies and services which enable customers to buy or build a private cloud for their applications."

Public vs. Private Clouds

According to the IDC survey, the greatest concerns among enterprises when considering public cloud adoption are security, control of data, and performance. IDC says that private clouds can offer most of a public cloud's benefits while reducing some of these risks. Morris says enterprises will have to decide which services are better suited to public clouds and which ones they want on their private clouds. For example, the survey found that respondents would more likely run collaboration applications and email on a private cloud.

"Having understood that there are distinct classes of applications that are well-suited to public cloud, and others that should never go near the cloud, regional users are beginning to develop selective strategies for cloud implementation," Morris says.

by Kyle Harpster

STORAGE

HOW TO

Set Up A Successful Storage Strategy

Ensure The Accessibility & Safety Of Your Company's Data

by Brian Hodge

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Data is the lifeblood of most modern businesses. Without timely access to data, their health can suffer. That puts your storage strategy among the most crucial factors influencing the business's day-to-day operations. By adopting a well-thought-out approach to the various data your company generates, you can optimize every stage of storage, from creation through end-of-life.

Calculate Storage Capacity

While storage has gotten cheaper over the years, too much unused space is still a wasted resource. By beginning with a concrete figure for your current data amounts, you can establish a rule of thumb that will scale with your needs.

"My rule of thumb would be to maintain at least one-and-a-half times the storage that is anticipated to be in use," says David Wilson, director of IT Services at Vector CSP (www.vectorcsp.com). "This gives room for growth and allows for at least one full copy of all pertinent data, aside from backups."

As for projecting for future growth, Boris Bless, network support technician at Colorado's Jefferson Center For Mental Health, advises, "If you know how much data you have now, chances are you can anticipate at least 20% per-year growth."

Structure Data Tiers

Obviously, not all data is created equal. While everything may be important, it's not all urgent. Understanding these divisions in your company, and how much data falls into each category, will guide you in allocating your budget between more costly, high-performance storage options, such as high-speed hard drives or solid-state drives, and slower, low-cost options, such as tape.

"You pick your things that are time-sensitive, and that's what you spend your money on storing in a high-performance way," Bless says. "Stuff that's going to change more slowly, you can afford to back up in a lower-performance manner."

For instance, enterprises that generate numerous financial transactions need that data instantly accessible, while human resource data isn't subject to the same pressing need, and should be fine on a lower-performance medium.

Data size and complexity can also dictate hardware requirements.

"If you have huge databases that have to be backed up using special software or at a particular time of night, you need something very fast and accurate to get it done," Wilson says. "If you rely mostly on documents, spreadsheets, and Web data, you can go with simpler solutions because the amount of data being passed is much smaller."

Devise A Backup Strategy

Although what constitutes an optimal backup strategy will vary from one enterprise to another, there's a general consensus on the number of backups you should need beyond the live copy.

"Theoretically, two ought to be enough," Bless says. "The hard part is ensuring that both copies are recoverable. If one is in a tape format, how often are you checking that you can restore from those tapes?"

It's crucial that one of these copies is remote to the local network. The choice of a remote storage location may strike some as a minor decision, but its distance could impact the survival of the company in a disaster recovery situation. Eric Burgener, vice president of marketing for InMage (www.inmage.com), recommends a distance of at least 200 miles, as that's likely to fall outside the radius of most natural disasters that would incapacitate the main data center.

Backup frequency is a factor of the most variables, such as the data's type, timeliness, and value. For instance, data from commercial transactions might change rapidly, or the company may mine it to conduct ongoing business intelligence analysis. On the other hand, data that isn't urgent enough to merit storage on your system's fastest hardware probably does not merit backing up with the same frequency as data that's considered mission-critical.

Ultimately, the bottom line is how much the company can afford to lose, a benchmark that should actually come from management calculations. According to Wilson, "The factor we keep at the forefront when determining these types of thresholds is the cost of lost data. How many hours, days, etc., can you lose and re-create, and what is the cost in time, man-hours, and reputation if you are forced to do so."

Information Lifecycle Management

Information lifecycle management encompasses the procedures and tools involved in moving data through its various stages, from creation and active use through archiving and, finally, disposal. The live stage—when data is created, used, and updated—will nearly always be the most vital in terms of access speed and organization.

Wilson provides one practical example: "If you have a current project, all data for that project should be cycling through from draft to final copy to archive in an orderly manner. We utilize a standard folder structure through which documents flow on their way to final copy. Most final copies of deliverables and documents remain live for the length of the contract or project and then are archived to 'Past Projects.'"

Essential tools. Although it may involve several steps, ILM can nevertheless be handled with a fairly select set of tools. Wilson mentions four tool types as being most important: directory replication, backup software, a program to synchronize copies, and project management/scheduling software to flag what point or state data has reached.

End of life. At some point, data ceases to have any value and can be purged to free up system resources. Although IT may implement this, it should be the responsibility of project managers, directors, etc., to determine how long data remains useful.

However, some data types—financial transactions and health records, for example—are subject to government regulations that mandate storage lifetimes that often exceed practical use. These may even dictate how data is stored. Compliance failure can result in steep fines, so understanding any laws that apply to your company data will help you avoid painful penalties.

It's a failure that never has to happen. A well-devised storage strategy will ensure that your company's data is always where it's supposed to be, from digital cradle to grave.

Key Points

- Because not all data is equally urgent, dividing it between high-performance and low-performance mechanisms can help you get more bang for your storage buck.
- In devising a backup strategy, the bottom-line benchmark should be how much data the company can afford to lose.
- Information lifecycle management encompasses the tools and procedures used to move data through its life stages from creation to disposal.

Tips For Information Lifecycle Management Planning

Information lifecycle management can be as complicated or as streamlined as the business demands, but at its core, planning can consist of four basic steps:

- Define your company's data types.
- Establish data tiers for these types.
- Formulate policies covering data access and movement.
- Formulate and enforce polices for data that's subject to regulatory compliance.

However, IT can't go it alone here. Input and cooperation across the company is key to planning and implementing a workable ILM approach.

"IT is often burdened with creating policies and strategies that it lacks the authority to enforce," says David Wilson, director of IT Services at Vector CSP (www.vectorcsp.com). "It doesn't matter what strategy you employ for organization, version control, backup, and archiving of data unless your entire company is behind it."

STORAGE

FEATURED PRODUCT

Helping Data Centers See The Green

Nexsan's Data Deduplication Solution Speeds Processing & Minimizes Energy Utilization

by Joseph Pasquini

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THE ESTABLISHMENT of a successful data backup and recovery strategy is irrefutably essential to the resiliency of any business. In order to be truly effective at the moment of crisis, though, such a policy must be vigilantly developed and faithfully executed.

Regrettably, as digital information continues to grow at an almost unchecked pace and realistic backup windows continue to proportionally contract, the temptation to whittle away at what once may have been a thriving enterprise backup strategy can be enticing to even the most seasoned administrator. A number of associated factors—including data center storage capacity, space limitations, skyrocketing energy costs, and the recurring need for capital infrastructure expenditures—only serve to push technology professionals further against the proverbial concrete wall of budgetary constraints.

Data Deduplication

To provide enterprises a healthier return on their investment, storage technologies have emerged over recent years specifically designed to improve the processing efficiencies—and thereby inherently lower operating costs—associated with backup and recovery activities. One of these technologies is referred to as data deduplication.

Simply explained, deduplication eliminates redundant data from the backup process by saving only a single copy of a data object and replacing additional instances with a pointer back to the master record. As a result, superfluous data is never backed up in the first place, thereby reducing the need for storage growth while simultaneously improving backup and recovery times.

DeDupe SG 2.0

Building on the emergence and evolution of this initial deduplication model, Nexsan has introduced its network-based DeDupe SG ("Speed for Green") 2.0 family of storage appliances. Headquartered in Thousand Oaks, Calif., Nexsan (www.nexsan.com) has been a leading developer and provider of storage solutions since 1999 and sells its products through an international network of VARs, OEMs, and system integrators.

Designed for data protection and disaster recovery applications that demand high-performance deduplication, this newest version of the DeDupe SG appliance integrates the latest iteration of the FalconStor FDS (File-Interface Deduplication System) with an energy-efficient, high-availability footprint.

"DeDupe SG avoids CPU-intensive methods to deduplicate data, avoiding unnecessary expense for additional servers and slow performance that inadequately addresses the shrinking backup window," says Randy Chalfant, vice president of strategy for Nexsan. "A single DeDupe SG high-performance subsystem is faster than multiple first-generation deduplication systems."

DeDupe SG, which starts at $49,000 for the entry-level 4TB version, sports a NAS interface and is designed to work with several of the customary backup or archive software products already in use within many organizations. 10 Gigabit Ethernet capability is also supported.

Scalable up to 8GB of cache, the centerpiece of Nexsan's DeDupe SG product lineup is the device's utilization of its own independent, high-performance RAID 6 subsystem. A total of up to eight RAID engines are supported. Because the DeDupe SG's RAID functionality is offloaded to the disk subsystem, the appliance is instead able to focus its CPU processing power on deduplication activities. In addition, the DeDupe SG features support for multiple data streams from multiple applications. "DeDupe SG uses a post-processing design to avoid conflicts in deduplication processing requirements," explains Chalfant.

The DeDupe SG is available in seven different compact, high-density footprints: 4TB or 7TB of usable capacity in a 5U configuration; 12TB, 18TB, or 26TB in a 6U configuration; and 52TB or 68TB in a 10U configuration. The lineup also offers support for standby DeDupe SG appliances for environments requiring high availability; DeDupe SG small office systems can also be installed at remote sites where they will deduplicate and store data locally and then replicate to a central DeDupe SG system for further protection.

"DeDupe SG is a 'no-compromise' system addressing tight backup windows with a very high-performance, highly available deduplication subsystem," says Chalfant.

Saving Energy & Money

Nexsan's decision to market the DeDupe SG at energy-conscious enterprises was clear right from the start. "DeDupe SG is unmatched at delivering equal deduplication efficiency in reducing the amount of objects stored, while substantially cutting costs, floor space used, and energy consumption," Chalfant says.

"Many data centers have already reached their power capacity limit. This power crisis demands far greater levels of efficiency for space and power than the first generation of deduplication can deliver," he continues. "The unique value of DeDupe SG is based on breakthrough infrastructure efficiency based on a very high-performance architecture that facilitates substantial reductions in necessary server and storage capacity, power and cooling consumption, [and] floor space usage and expense—all made possible by a holistic approach to storage and deduplication efficiency."

The DeDupe SG accomplishes these energy savings via what Nexsan refers to as its AutoMAID (Automatic Massive Array of Idle Disks) technology. "Nexsan's revolutionary AutoMAID energy-saving technology is core to DeDupe SG and serves to greatly exceed the energy-guzzling tendencies of first-generation deduplication products," Chalfant says.

AutoMAID operates transparently in the background and self-optimizes energy efficiency by looking for opportunities to save energy. As a result, the DeDupe SG will gradually slow down and ultimately turn off its drives to conserve power while providing near-instantaneous access to data whenever called upon.

"In DeDupe SG, AutoMAID monitors when and how long RAID arrays are idle," says Chalfant. "An easy-to-use AutoMAID power configuration manager is used to create policies for what power savings levels are enabled after user-defined periods of idle time. When idle thresholds are met, AutoMAID progressively reduces disk drive power consumption."

Chalfant stresses the capabilities of the DeDupe SG and its ability to help struggling organizations garner better control over scarce resources. "DeDupe SG is the right high-performance choice when budgets and available energy are constrained, seconds matter, and business is waiting," he says. "It saves storage and provides up to 30X greater capacity for backup and recovery processes. The product accomplishes this while cutting energy requirements by 60% for lower operational costs."

Chalfant concludes, "DeDupe SG is far faster backing up than the inline server-based approach, allowing administrators to finish backups on time and under budget." P

DeDupe SG 2.0 from Nexsan supports the replication of deduplicated data across any network.

nexsan®

NEXSAN DEDUPE SG 2.0

(866) 463-9726
www.nexsan.com

Description: Data deduplication appliance offers high-availability backup and recovery services to NAS-based disk-to-disk environments.

Interesting Fact: The DeDupe SG 2.0 shrinks backup windows by processing backups via its internal high-speed disk cache prior to committing the data to its onboard RAID subsystem.

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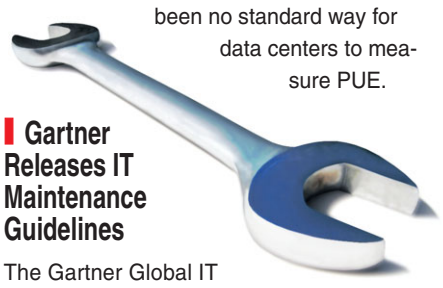
News

Standard Proposed For Measuring Power Usage Effectiveness

Recently, the U.S. Department of Energy, the EPA's Energy Star Program, the Uptime Institute, the U.S. Green Building Council, and others worked together to define a common way to calculate PUE (power usage effectiveness). PUE is a metric developed by The Green Grid to measure the efficiency of data centers. In short, the PUE compares the total energy consumed by a data center to the amount of energy that's delivered to the IT equipment, which shows how much is lost to other components. Until now, there has been no standard way for data centers to measure PUE.



Gartner Releases IT Maintenance Guidelines

The Gartner Global IT Council for IT Maintenance, which includes CIOs, Gartner analysts, and IT leaders, has introduced guidelines for IT maintenance. The council's code of conduct outlines seven "rights of IT maintenance consumers," such as the "right to regular, appropriate, predictable updates to software products." The Code of Conduct was written for the analyst firm's vendors to follow and is designed to make sure organizations are spending an appropriate amount of money on maintenance fees and receiving adequate services. Another guideline states that organizations have "the right to reasonable, predictable percentage ranges for yearly maintenance fee increases—or decreases—as well as long-term caps on increases in maintenance costs."

China Gets On Board 3G

Because China's mobile carriers have encountered problems with handset provision and network coverage, mobile users in the country have been slow to adopt 3G technology. The Ministry of Industry and Information Technology wants to change that and has set the goal to increase China's 3G users from 25.2 million users currently to 150 million by 2011. China's nationwide 3G carriers—China Mobile, China Unicom, and China Telecom—are using three different technologies. China has 750 million mobile users, and the variety of 3G options may be creating consumer confusion, hindering the market. China invested $2.83 billion in its 3G network in the first half of this year.

Amazon, IBM Named Tops In Cloud Computing

Amazon and IBM are the top cloud vendors based on a quarterly report by BTC Logic. Labeled "cloud champions," both Amazon and IBM beat out other cloud-based companies to land in the top five in four of the seven cloud computing categories studied. Ranked as "cloud heavyweights," falling slightly behind IBM and Amazon, are companies such as Google, Microsoft, Red Hat, VMware, and Cisco. The "cloud contenders" category includes ATI, Rackspace, and the Business Objects division of SAP. The report serves to clear up confusion over the cloud computing market.

STORAGE

Picking Up The Pieces

Critical Steps For Reconstruction After Disaster Strikes

by Christian Perry

• • •

After descending 1,800 stairs from the 101st floor of the World Trade Center's South Tower on the morning of Sept. 11, 2001, system administer Robert Eisenhardt turned back to look at the burning towers as he crossed the street. At that moment, a message from his boss appeared on his pager: "Did the backup tapes go out on Monday?"

Although it was an infuriating question for Eisenhardt amid the unfolding tragedy, it's one of many issues that hinges on the potential survival of a business after a disaster. The events of 9/11 and other disasters have slammed home the importance of disaster recovery and other continuity strategies, even though many companies thankfully never get a chance to put those plans into action. Yet regardless of whether a disaster might ever strike, enterprises must be ready to take those crucial first steps to get back on their feet.

"Reconstructing an enterprise after a disaster basically means bringing their critical processes back online so that they can continue to transact business," says Eric Burgener, senior vice president of marketing at InMage (www.inmage.com). "Recovering quickly—within a couple of days at the worst—is critical, since research indicates that the longer an enterprise is offline, the higher the chance that they will go out of business within one year as a result of the disaster. Enterprises will need to recover their data and application environments and then restart the business processes that those IT components support."

Get Back On Track

The backup tapes referenced in Eisenhardt's infamous page had indeed left the building the day before the towers collapsed, but moving ahead after a disaster involves far more than procuring backup tapes that hopefully reside offsite. Eisenhardt, who worked for Aon Consulting at the time of the 9/11 tragedy and now owns Professional Computer Systems Consulting, says that businesses should follow several steps immediately following a disaster.

First, he recommends establishing a command center—whether it's just one person using a phone or multiple people in a facility—to allow activities to begin from a single location. Second, staff should be contacted by phone and consulted on what to expect and what they should do, because once people are in place, both IT and non-IT staff can begin to continue work. If contingency locations were defined ahead of potential disasters, employees will know to go directly to those locations. Third, he says that reports should be collected from both local and remote departments as required to provide hard data that will help to define the next steps.

Key Points

- As part of a disaster recovery plan, a central command location should be established to ease the process of contacting employees and collecting departmental information critical to the rebuilding process.
- The severity of the disaster and the length of the business outage will help determine when the full disaster recovery or business continuity plan will be put into action.
- Even without a disaster recovery plan, reconstruction will depend on several vital steps, including report collection, data restoration, and loss data collection.

> If a disaster recovery plan was in place prior to the disaster, companies need to ensure they follow that plan precisely as designed.

The initial analysis after a disaster is important to mapping the extent of the continuity plan. Brace Rennels, project manager at Double-Take Software (www.doubletake.com), notes that if a company can sustain an outage of a few hours, then its full business continuity plan likely won't need to be activated. However, if the disaster has created the potential for an outage that extends beyond 48 hours, the recovery process should begin as soon as possible to restore critical business operations. If critical operations are restored within 24 to 48 hours, insurance policies need to be reviewed to determine what's covered so that damaged or lost infrastructure can be replaced—but even then, it can take months or even years to receive funds, replace infrastructure, and resume to predisaster operations levels, Rennels says.

If a disaster recovery plan was in place prior to the disaster, companies need to ensure they follow that plan precisely as designed. "Recovering from a disaster should follow run-book procedures as much as possible, and there should be a run-book procedure for almost every facet of recovery. Depending on the skill set of administrators, iterative trial-and-error recovery procedures and manual reconstruction of everything is a very high-risk, very lengthy way to recover," Burgener says.

The No-Plan Plan

Despite the potential for severe consequences, some companies operate without a disaster recovery plan. But Rennels says that from an IT perspective, most companies at least have tape backups that are stored offsite, although they should realize that it can take 24 hours to obtain those tapes and begin the data restoration process. Even then, there may be no guarantee that the recovery will be successful.

If a company finds itself in the unfortunate position of rebuilding without a disaster recovery plan in place, Eisenhardt recommends documenting everything throughout the process to help form the future disaster recovery plan. Other steps will mirror those contained in actual disaster recovery plans: Form a command center, collect reports from departments and individual workers, restore data from offsite backup, compile loss data for insurance, etc. He also recommends restoring the accounts receivable department as soon as possible, because that's the department that brings in money when it's most needed. Depending on the scope of disaster, it may also be critical to ensure flexibility for employees as the company recovers and rebuilds.

"If the disaster involves true trauma, as 9/11 did, therapy and individual counsel helps staff recover," Eisenhardt says. "People recover from a disaster in different ways. . . . Allowances must be made for the truly exceptional situations. People respond and recover differently. Recognize that nothing will ever quite be the same again." P

Ensuring Physical Security

After a disaster occurs, a company's assets can be at risk of theft by intruders or loss through vandalism or other means. William Besse, vice president of consulting and investigations for Andrews International (www.andrewsinternational.com), says that security teams can help keep the reconstruction process on schedule.

"Security may very well be needed to help obtain and secure many of the items and services needed for rebuilding, so great care should be taken in the selection of the firm to provide that security. First responses should include securing the physical property by getting personnel onto the site," Besse says.

While the restoration of power, supplies, communications, personnel, funds, and other functions are paramount following a disaster, ensuring physical security can help protect assets that are critical to the rebuilding process.

SECURITY

FEATURED PRODUCT

Powerful Entry-To-Exit Security

PortWise Access Manager Helps Stop Rogue Access & Deter Security Breaks

by John Brandon

• • •

If there's a will, there's a way. That's the mantra of employees (and hackers) who circumvent the established security protocols in an SME. These users figure out ways to tap into company resources to forward sensitive documents to personal accounts and use instant messaging and other applications to accomplish what they need to do. The problem is that even if an employee has good intentions, there isn't always a safe, reliable way to tap into applications, databases, and other resources in a corporate environment. PortWise Access Manager (www.portwise.com) offers a solution to this problem by allowing companies to grant secure remote access to company networks without compromise.

"We make sure whatever application you have inside your company can connect from anywhere with just a Web browser," says Johan Rydell, technology director at PortWise and one of the original technologists. "We are the security layer around your internal applications."

In The Beginning

PortWise was founded in 1998 and started with an emphasis on the international banking market. From the very beginning, Rydell saw that companies wanted secure Internet access.

"We wanted to separate authentication and access control from the resource but still have the resource in the company," he says. "Our product acts as a filter to allow access. We had been working on banks in northern Europe and Sweden, [and] we came up with the idea that companies needed to have this functionality for easy access to these resources."

Rydell says another impetus came from a realization of how employees in a company sometimes work around the security precautions when they work remotely. They often send sensitive company information using their corporate email account to an unsecured personal account, such as one hosted by Hotmail or Yahoo!, and then access that information from home or on vacation. With a secure connection and access to company applications, employees are not as likely to forward this information to another account, knowing they can access everything they need remotely.

"Employees needed something in-house to access internal applications," Rydell says, adding that PortWise Access Manager became available as part of third-party appliances used by smaller companies. For larger companies, he says, the product is ideal because you never know which employee will connect, what they need to do, and how they might try to do it. With PortWise Access Manager, there is more assurance that employees will not "go rogue" and make data easier to steal.

Small Company, Big Security

PortWise Access Manager is an effective way to create a secure infrastructure for remote access to applications, and Rydell says company size is not a limiting factor because small companies need the same industrial-strength protection against illegal break-ins and unapproved remote sessions. He does say, however, that certain industries are more commonly targeted by hackers.

"We are focused on government, hospitals, and healthcare providers," says Rydell. "The largest customers we target are mostly banks and large multinational companies."

For these industries, where security is paramount and one break-in can cause serious repercussions (both to the company brand and in terms of a legal discovery), there is no way around the need for a secure VPN into company applications. As an added bonus, Rydell says PortWise Access Manager does not add a great deal of complexity and management to existing application servers.

"We add the security layer with strong authentication seamlessly, so if you have a database with a phone number, we can use that phone number as a second factor for authentication. If you already have security tokens, we can use them out of the box, as well," Rydell says.

"We use a federated identity security model. Let's say a company wants to outsource some of their customer relationship management to Salesforce.com. We already have built-in support for that, so you do not need to keep separate databases for that. That reduces the number of passwords you need," he says.

Better Than Homegrown

One issue that usually comes up with remote access is whether a company can piece together the same kind of user access control, authentication, SSL encryption, and other security precautions by using open-source software or separate commercial tools. Rydell says it is possible, but there is not the same level of granularity and control over these disparate tools.

"They do not have the same single sign-on access that we provide, since we are rather unique in that we can do single sign-on for telnet SSH, TCP stream, and keystroke logging. I have not seen other products that can do that," Rydell says. "For small companies and large companies, it is extremely important that the security authentication process takes care of the password policies. If you are not sending out the password change request automatically, you need to manually send out that change if the employee leaves your organization."

Rydell continues, "The main benefit of using single sign-on is that no person (or system) needs to know the internal passwords. Most company security policies require password changes if a consultant or former employee could have obtained this information."

In the future, Rydell believes more and more companies will be moving to the federated identity model that he says is crucial, and will also add more single sign-on controls. This will only strengthen the market as more companies realize the benefits of secure, reliable remote access. P

PortWise Access Manager

- SSL VPN that can be added seamlessly to existing application infrastructure
- Discourages employees from finding workarounds when they can't access applications
- Easy-to-use management console does not add new overhead to admin tasks
- Clientless to avoid confusion on end-user devices

PortWise Access Manager

(415) 835-3020
www.portwise.com

- **Description:** SSL VPN that data center managers can add seamlessly to existing application infrastructures, providing secure remote access for employees.
- **Interesting Fact:** One of the most common security holes in companies of any size is employees forwarding business information to their personal email accounts.

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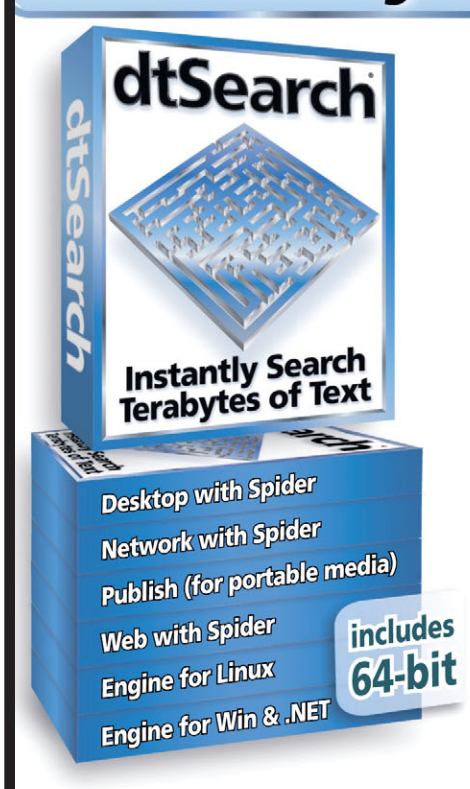

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News

SECURITY

Advanced Threats Are A Growing Problem

Advanced threats against enterprises are widespread and on the increase, and enterprises are having a difficult time dealing with them. That's one of the major findings in a recent study conducted by Ponemon Institute and sponsored by NetWitness.

The institute surveyed 591 IT security managers in the United States and found that 83% of respondents believe their organizations have recently been the targets of advanced threats, with 71% saying they have seen an increase in such threats over the past year.

Mike Spinney, senior privacy analyst at Ponemon, cites several reasons for the increase in threats, including the possibility of carelessness on the part of employees when it comes to using portable media, using their workplace assets in an unprotected environment, or downloading applications to a computer at work.

Attack Uncertainty

Uncertainty about the attacks among study participants was evident, with 41% reporting that they were unable to determine how frequently they were targeted by advanced threats.

Less than a quarter of the respondents feel that prevention or quick detection of advanced threats is a top priority in their organizations. Further, only 19% feel their IT leaders are fully aware of the situation. "If advanced threats are not recognized as a priority," Spinney says, upper-level executives "won't assign the appropriate resources to address the threat."

About 58% of respondents feel they have the proper procedures in place to address the threat situation, and a third say that security-enabling technologies are adequate. When it comes to security training, 26% of survey participants report that security personnel at their enterprises are adequately trained. This could be remedied in part, Spinney says, by emphasizing the human element in threat prevention.

One of the biggest problems enterprises face is detecting advanced threats, with 80% saying it takes a day or longer for their enterprise to detect such threats. About 46% report that it takes a month or longer, leaving a major security gap. This is a problem that "adequate and up-to-date security systems" could help to prevent, Spinney says.

What can enterprises learn from all this? They need to train new and existing security teams in advanced security techniques, senior management must become educated on the seriousness of these threats, and current antivirus and intrusion detection system solutions need to be improved, according to Spinney. And new, more intelligent solutions need to be found. The keys are "awareness, education, and leadership," Spinney says. "There is no excuse for a lack of attention to this issue."

by Patrick Kean

Third-Party Security Checks

How To Make Your Enterprise More Secure

by Bruce Gain

• • •

Some enterprises' networks and data centers are so exposed that practically anybody with an Internet-connected PC and knowledge gleaned from hacking forums could easily find security holes.

Key Points

- Hiring a third party for a security assessment to complement an in-house expert or security team should be a necessity.
- While essential, third-party penetration testing can be disruptive, so plan accordingly.
- Analyst opinions and word-of-mouth recommendations are the best places to start when seeking a security firm.

On the other end of the spectrum, an organization might have an in-house security expert who has years of experience, knowledge of new hacking techniques, and the necessary tools to fight back against attacks. However, most small to midsized enterprises' security practices fall somewhere in between these two extremes, meaning they can likely benefit from a credible third-party assessment.

Hiring a third party to seek out possible network vulnerabilities can benefit your enterprise's security processes. However, there are risks with paying someone outside your enterprise to penetrate your network, although you often have more to gain than lose by using these services.

The Need To Assess

Even if you or someone on your staff is a talented security expert and has locked down the network as much as anyone could, a third party can offer confirmation about how fail-safe your security processes are.

"Internal staff will often approach pen-testing with blinkers, in the same way that software developers never make the best QA/fault finders because they test their own software based on their knowledge of its possible weaknesses, rather than from the point of view of someone who just wants to do anything they can to break it," says Bob Walder, a research director at Gartner. "Thus, external pen-testers can approach from a position of zero knowledge and zero assumptions. This allows them to consider penetration routes, which internal staff might discard as simply 'impossible.'"

However, a third party should complement an in-house security expert or team and not serve as a substitute. "If a firm has not created a security person and/or group [in-house], then they are behind the eight ball. If they are addressing security with the old wear-multiple-hat roles, and if [admins] have an unofficial duty someone has handed to them, then enterprises are taking risks in their own hands," says Brad Kowal, assistant data center director for Shands HealthCare in Florida. "But if they are already at the top of the security mountain, maintaining that altitude still requires a lot less effort. Therefore, the best way to determine where you sit in that altitude in terms of security is to hire that third party."

In many ways, security plans and testing are as much an art as a science, and security experts may have very different opinions about processes. However, hiring a third party can also serve as a neutral arbitrator for audits and assessments while resolving conflicts among staffers about proper security policies. "Independent testing of controls helps to separate tester from internal politics," says Joe Malec, the St. Louis chapter president of ISSA (Information Systems Security Association; www.issa.org).

The Risk Factor

Hiring a third party can involve some risk. Some SMEs, for example, may be reluctant to give a third party the freedom to learn about security vulnerabilities while fearing the damage potential if vulnerabilities are exploited. "You are opening your network and organizations to outsiders who will finish up with a very detailed knowledge of your weaknesses and defenses," Walder says.

> "You are opening your network and organizations to outsiders who will finish up with a very detailed knowledge of your weaknesses and defenses."
>
> *- Gartner's Bob Walder*

But in many ways, you should never have to just hand over the keys to a third party, as it should be left up to them to probe and figure out where your network's weaknesses are, just like any hacker would. "You are giving them permission to attack the network, but to do it in a moderate fashion," says Avishai Avivi, senior director of HSS Engineering Operations at Juniper Networks (www.juniper.net).

Still, one drawback is that penetration tests are usually supposed to be disruptive, so it is necessary to make sure they are not done when all of the network's resources must be available and running at peak performance, Avivi says. "Owning the box might require you to crash the email system. So part of the process is when the exploit payload gets onto the box, which is the disruptive effect," Avivi says. "A buffer overflow on its own is worthless, so [a third party must] exploit it. It is not enough to know that there is a vulnerability."

However, another potential is to over rely on a third party's expertise. "Depending on the scope of the knowledge of the tester, a false sense of security could emerge if tests were successful," Malec says. "Relying on a third party may also prevent the organization [from building] the skill set in-house, thereby leaving the organization vulnerable because the expertise to protect the network and systems is not available."

Hiring A Third Party

Hundreds of third-party security firms exist, but finding a short list of the best ones for your needs requires some research. Start by asking an established analyst firm for potential candidates, Kowal says. "Then it is a CIO word-of-mouth process to find the right firm."

After a third party is selected, it should sign a nondisclosure agreement and provide proof of its professional indemnity cover, says Paul Vlissidis, technical director at NCC Group Secure Test (www.securetest.com). Also, he says, SMEs should check that the testers have a strong track record with a comprehensive understanding of the relevant legislation, and "it must be established before the test what will happen to the customer's data once the test is completed—it must either be destroyed or returned, unless there is a prior agreement to retain the data for future use (for example, as part of a series of regular tests)." P

How Much Do You Pay?

How much you will have to pay to hire a third party to test your network's defenses and security policies can vary, but don't expect to get quality service on the cheap. According to Bob Walder, a research director for Gartner, "You can have it cheap, or you can have it good. You can't have both."

A service agreement can last for a year or more and can be billed monthly by service, the number of devices, and service level, says Adam Rice, CSO of Tata Communications (www.tatacommunications.com). "In the United States and Europe, $1,000 per device is a good average."

FEATURED COMPANY

Total Network Protection

Network Box Unified Threat Management Offers The Best In Security

by Kris Glaser Brambila

• • •

Protecting your enterprise from countless online threats can be a challenge, especially if your IT staff doesn't have the security knowledge and expertise it takes to fully manage your company's defenses.

Network Box (www.network-box.com) is a managed security provider that has been in the business of helping SMEs better protect their networks for about a decade. The company was founded in 2000 and is headquartered in Hong Kong. It added a U.S. network operations center in Houston, Texas, in 2003. Network Box has other offices in London, Australia, Japan, South Korea, Singapore, and Taiwan.

Security Specialty

Network Box's specialty is providing Internet security for SMEs. "Our mission is to make Internet security available and affordable to enterprises of all sizes," says Pierluigi Stella, CTO of Network Box USA. "Our flagship product includes a range of Internet threat prevention and security appliances," he adds.

The company's full-featured UTM (unified threat management) appliance and accompanying service can scale to meet the needs of networks of all sizes.

Similar to large enterprises, Stella says, SMEs are also victims of online threats, but SMEs may be at a disadvantage. "These businesses suffer the same security issues as larger corporations but lack the knowledge and resources to fight back as effectively," he says. "Many [SMEs] had no protection at all; those who did were not managing them properly, and that meant being as unprotected as those who had none," he adds.

Along with Network Box's goal to offer simple security solutions for SMEs, Stella says, the company also strives to keep its products up-to-date against the latest Internet security threats.

Research & Development

Currently, Network Box is working on researching and developing several technologies that will help it continue to offer customers the utmost in Internet security and protection. According to Stella, some of these areas include threat protection and detecting new and unknown threats, data loss prevention, vulnerability assessment, and the full integration of all its UTM services into a single holistic service.

Network Box's dedication to providing the best Internet security appliance on the market is not the only thing that sets it apart from other managed security providers. Stella notes that regardless of the size of the company, the features of Network Box UTM stay the same. "We do not shortchange the small customers by reducing the feature set to provide a cheaper product," he says. In addition, Network Box solutions are easier to deploy than other appliances because the hardware is provided with the service.

"With Network Box, customers do not pay for the hardware; they simply use it for as long as they are under contract and pay for the service," Stella says, which reduces purchasing issues and financial worries and makes it easier to upgrade. "If the customer grows and needs a bigger box, it upgrades the service, and we replace the UTM device with a larger one," he says.

One of the biggest benefits of working with Network Box is the reassurance that your network is protected, because it is fully managed by Network Box. "By adopting Network Box, [SMEs] now have 24/7 protection in the hands of a global company that works with them to define/improve their Internet security policies," Stella says. Pair that with automatic, real-time updates, and that translates into a continuous, worry-free, and efficient protection system for your network.

Network Box UTM Appliance

The Network Box UTM appliance helps small and medium-sized enterprises effectively manage their security. The comprehensive UTM appliance incorporates all the necessary tools to protect your network, including multiple firewalls; an IDPS (intrusion detection and prevention system); email protection with three antivirus systems (Kaspersky, Clam, and Network Box); anti-spam protection; and Web protection.

The UTM appliance's tools work together to protect your network against a variety of Internet threats. "By installing a Network Box, a company can become automatically protected against the latest viruses, hackers, worms, backdoors, and other online menaces easily, effortlessly, and cost-effectively," says Network Box USA CTO Pierluigi Stella.

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Fax 770-931-9416
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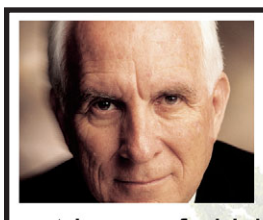

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SERVERS PRODUCT SPOTLIGHT

Rackmount Servers

Product

Aberdeen AberSAN Z20

Aberdeen AberSAN Z80

HP ProLiant DL580 G7

Description

The 2U AberSAN Z20 server delivers simultaneous file- and block-level storage without volume limitations, plus it provides enterprise-class data protection features. The servers are designed to deliver improved operational efficiency within a dynamic VMware environment and are VMware Certified.

- ZFS storage pooling with a virtually unlimited array size
- 16TB of local SAN storage with scalability beyond 1PB
- Block-level deduplication and endless snapshots
- iSCSI connectivity and Fibre Channel target-enabled
- Multilevel data protection with block-level mirroring
- Inherent virtualization management enabling thin provisioning and I/O pooling

Best For: Any small to medium-sized enterprise with budget constraints in need of expanding managed storage in a build-to-suit solution.

Price: Starts at $8,295

The 8U AberSAN Z80 provides endless scalability to well beyond 1PB and possesses ZFS storage benefits designed to offer the best in ROI in a storage management solution. The Z80 supports multiuser network sharing by combining the connectivity of Fibre Channel and iSCSI block-level functionality.

- 96TB of local SAN storage with scalability beyond 1PB
- Virtually unlimited array size with ZFS storage pooling
- Cloud-ready storage capabilities
- iSCSI connectivity and Fibre Channel target-enabled
- Multilevel data protection with block-level mirroring
- Inherent virtualization management enabling thin provisioning and I/O pooling

Best For: SMBs or VMware-centric enterprises looking for a robust, feature-rich SAN server solution to affordably deliver maximum ROI with premium performance.

Price: Starts at $30,885

The HP ProLiant DL580 G7 is a scale-up server designed with reliability to support the most demanding, data-intensive x86 workloads. Based on the latest Intel Xeon 7500 Series processor, the new systems architecture accelerates virtualization and eliminates performance bottlenecks. HP ProLiant servers are the building blocks of an HP Converged Infrastructure—a blueprint for the data center of the future.

- Increases administrator productivity with iLO 3 (Integrated Lights-Out) Advanced remote console management
- Improves data center utilization, reclaims overprovisioned energy, and triples data center capacity with HP Insight Control with Dynamic Power Capping technology.
- Eliminates overprovisioning of power capacity with HP Intelligent Power Discovery

Best For: Business-critical data center deployments and virtualization environments.

Price: Starts at $9,249

Product

Oracle Sun Fire X2270 M2

Oracle Sun Fire X4470

Silicon Mechanics Rackform iServ R143

Description

Oracle's Sun Fire X2270 M2 supports Sun FlashFire technology to help customers maintain maximum server performance and level power consumption. The ILOM (Integrated Lights Out Manager) 3.0 serves to automate onsite or remote administrative tasks. The X2270 supports the following operating systems: Oracle Enterprise Linux, Oracle VM, Oracle Solaris, Red Hat Enterprise Linux, SuSE Linux Enterprise Server, VMware, and Windows Server.

- Compact 1U entry-level server
- Powered by up to two Intel Xeon 5600 Series processors
- Supports up to 12 DIMMs for a maximum 96GB of memory
- Rack-optimized for customers requiring multiple servers for high availability
- Consistent system manageability with Oracle ILOM included in every system

Best For: Data centers operating on cloud and technical computing infrastructure.

Price: Starts at $2,053

Functioning as a mission-critical virtualization platform, the Oracle Sun Fire X4470 server is best for Web app consolidation and collaboration tools. It supports up to 512GB of memory and more than 1.8TB of internal storage. This server model also includes ILOM (Integrated Lights Out Manager), which makes remote or local configuration possible. Capitalizing on other remote management features, the X4470 has in-band/out-of-band/sideband network management access through the four Ethernet ports, one RJ-45 serial management port, and full peripheral KVMS redirection and remote media capability.

- Compact 3U enterprise-class server
- Powered by up to four Intel Xeon 7500 Series processors
- Up to four Oracle Sun Flash Accelerator F20 PCI-E cards
- Minimize real-estate costs with the leading compact system design
- Boost application performance and reduce power consumption with Sun FlashFire technology

Best For: Data centers requiring a virtualization platform for enterprise performance management applications.

Price: Starts at $14,692

The Rackform iServ R143 is a 1U single-socket entry-level rackmount server. It features an Intel Xeon Processor 3400 Series CPU, six DDR3 DIMM sockets, two Gigabit Ethernet adapters, integrated IPMI with KVM over LAN, one PCI-E expansion slot, four hotswap fixed SAS/SATA drive bays, and an 80 PLUS Gold Certified power supply.

- Intel Turbo Boost and Hyper-Threading Technology
- Integrated memory controller with two channels of DDR3 memory
- Integrated PCI Express I/O

Best For: Environments needing flexible entry-level servers.

Price: Starts at $1,242

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Joanna Safford

HP ProLiant DL585 G7

The HP ProLiant DL585 G7 server delivers industry-leading efficiencies to reduce costs in both capital as well as operating budgets. Based on the latest AMD Opteron 6100 Series processor, this server supports up to 512GB of memory to maximize performance. HP ProLiant servers are the building blocks of an HP Converged Infrastructure—a blueprint for the data center of the future.

- Increases administrator productivity with iLO 3 (Integrated Lights-Out) Advanced remote console management
- Improves data center utilization, reclaims overprovisioned energy, and triples data center capacity with HP Insight Control with Dynamic Power Capping technology
- Eliminates overprovisioning of power capacity with HP Intelligent Power Discovery

Best For: Server virtualization, server consolidation, multitiered enterprise applications, and corporate infrastructure applications.

Price: Starts at $8,579

IBM Power 750 Express

Designed to improve overall response and data access times, the IBM Power 750 Express features POWER7 performance, PowerVM virtualization, and Active Memory Expansion. The IBM Systems Director Active Energy Manager helps curb energy consumption and sustains data centers even on a limited energy supply.

- PowerVM Virtualization supports up to 32 POWER7 processor cores and 512GB of memory
- Active Memory Expansion enables the compression/decompression of memory in order to enhance consolidation
- The POWER7 Intelligent Threads technology optimizes server workloads, and Intelligent Cache technology improves cache access to cores
- To process more data with few disruptions, the Power 750 includes RAS (reliability, availability, and serviceability) capabilities such as recovery from intermittent errors

Best For: Medium-sized or large database servers required to run faster with fewer processors.

Price: Starts at $34,152

IBM System x3690 X5

The IBM System x3690 X5 offers more performance in a dense form factor, thanks to the X-Architecture. To simplify remote management and improve continuous monitoring, the IBM Systems Director alerts you of any changes in the system. The hot-swap, redundant, rear-access power supplies get rid of single-point-of-failure concerns and let you remove PSUs without removing the system from the rack. This model also includes Predictive Failure Analysis; an optional embedded hypervisor; and OS flexibility with the choice of Windows, Red Hat, Linux, and VMware.

- Offers more memory capability with MAX5 Memory Expansion
- Based on Intel Xeon 6500 series processors
- Up to 16 hard drives
- Ideal for changing workload demands because of its flexibility for virtual machines
- Utilizes the fifth-generation eX5 technology
- Advanced service and remote management capabilities allow for greater productivity

Best For: Continually growing data centers looking for a cost-effective investment.

Price: Starts at $5,845

Silicon Mechanics Rackform nServ A331

The Rackform nServ A331 is a flexible 1U rackmount server. The A331 features two AMD Opteron 6100 Series CPUs, 16 DDR3 DIMM sockets, an integrated dual-port Gigabit Ethernet adapter, integrated IPMI with KVM over LAN, two PCI-E 2.0 expansion slots, four hot-swap SAS/SATA drive bays, and an 80 PLUS Gold Certified redundant power supply.

- Eight- or 12-core AMD Opteron processors
- Advanced power management features
- Quad channel U/RDDR3 memory
- HyperTransport technology
- 12MB L3 cache per socket

Best For: Enterprises in need of a robust, flexible 1U server.

Price: Starts at $2,724

Supermicro SuperServer 2026T-6RFT+

With an Intel Xeon 5600/5500 Series processor and Intel 5520 chipset, the 2U rackmount SuperServer 2026T-6RFT+ offers up to 6.4GT/s QPI. The 2026T-6RFT+ can hold up to 192GB memory. The right side is low profile (5.5 inches deep) with one (x4) PCI-E 2.0 slot, while the left side is full height and length with two (x8) PCI-E 2.0 slots. This server boasts a Platinum-level redundant power supply at 920W.

- LSI 2108 eight-port 6Gbps SAS controller; RAID 0, 1, 5, 6, 10, 50, 60
- Customizable storage available through 16 2.5-inch hot-swap SAS/SATA drives
- Integrated IPMI 2.0 with dedicated LAN
- 920W high-efficiency redundant power supply
- Super X8DTU-6TF+ integrated board

Best For: HPCC node, data center, data farm, front-end server, and other compute-intensive applications.

Contact: (408) 503-8000 | www.supermicro.com

Supermicro A+ Server 1042G-TF

The A+ Server 1042G-TF is a 12/eight-core-ready 1U rackmount server based on Quad/4-way AMD Opteron 6100 Series processors and the AMD SR5670/SP5100 chipset. With the Super H8QGi+-F integrated board, the 1042G-TF provides up to 512GB of memory, and it includes one PCI-E Gen 2.0 x16 slot. Additionally, the 1042G-TF offers a dual-port Gigabit Ethernet LAN controller with four USB 2.0 ports and one dedicated LAN for system management (IPMI 2.0). Three hot-swap SAS/SATA drive bays are also available.

- 1400W high-efficiency power supply
- HT3.0 link support through AMD Opteron 6100 Series processors
- Up to 512GB registered ECC DDR3 1333/1066/800 SDRAM in 32 DIMMs
- IPMI 2.0 + KVM with dedicated LAN support
- 1.7 x 17.2 x 28.2 inches (HxWxD)

Best For: High-performance compute cluster, virtualization server, or online transaction processing applications.

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News

Adobe To Introduce Built-In Sandboxing Capabilities In Reader

In an effort to ward off new vulnerabilities following a spate of attacks on its Acrobat Reader program, software developer Adobe announced that it will begin incorporating "sandboxing" into the next release of Reader, version 10, expected to be released later this year. Sandboxing is a means of isolating processes in order to keep malicious code from making its way out of an infected application's sandbox and onto the host computer. The new built-in sandboxing feature will add further security to Acrobat Reader's browser plug-in, which currently works with Google Chrome's isolation ability and Internet Explorer's Protected Mode, and will provide better protection for users of Mozilla Firefox.

Dell To Pay $100 Million To Settle Fraud Charges

Computer maker Dell has settled fraud charges brought against it by the SEC (Securities and Exchange Commission) to the tune of $100 million. The SEC charged Dell with not properly disclosing details of a lucrative exclusivity deal the company made with chip maker Intel in which Dell agreed not to manufacture systems with chips made by rival chip maker AMD in exchange for exclusivity payments from Intel—payments that totaled 76% of Dell's operating income in Q1 2007. In addition to the company's $100 million fine, Dell CEO Michael Dell will also pay a $4 million settlement fee out of his own personal funds for his participation in the disclosure violations.

Microsoft Reports Record Sales

Strong Windows 7 sales and a resurgent PC market helped Microsoft post record sales during its fourth fiscal quarter, with a 48% rise in net income to $4.52 billion. Revenue rose 22% to $16.04 billion, ahead of analyst predictions of $15.27 billion. Microsoft says it sold 175 million licenses of Windows 7 since it was released last year. Windows sales climbed to $4.55 billion from $3.17 billion, an increase of 44% over last year. Office sales increased 15%, and server revenue rose 14%. However, Microsoft's entertainment and devices group, which includes the Xbox, lost $172 million. The online services group, which includes the Bing search engine, lost $696 million.

Symantec Revenue Flat, Earnings Up

In spite of strong first quarter 2011 earnings, Symantec reported flat overall revenue figures for the quarter. The company's license revenue during the quarter, $185 million, represents a drop of 17% compared to last year's first-quarter figures, although revenues from content, maintenance, and subscriptions rose slightly. Although the company's overall consumer revenues rose about 6%, its services revenue remained unchanged at $96 million. The biggest drag on revenue, though, was Symantec's storage and server management segment, which analysts report has been negatively affected by the recession. Symantec spokespersons counter that the flat earnings are partly due to the fact that several large deals originally slated for Q1 have instead been pushed to Q2.

MESSAGING & TELEPHONY

Virtualized Phones

Mixing Worlds: There's An App For That

by William Van Winkle

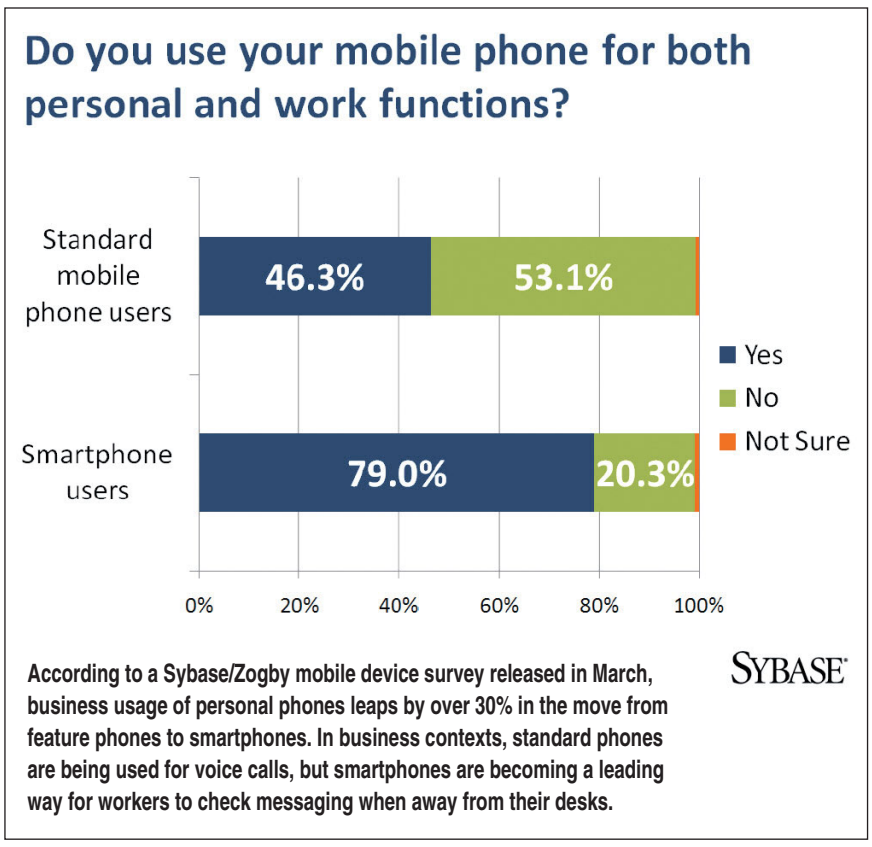
• • •

When enterprise software maker Sybase released its Zogby-conducted mobile device survey results last March, 52% of respondents noted that if they owned a tablet, such as the iPad, they would use it for work, while 48% said they would use it to watch movies, video, and TV programs. Three out of every four respondents believe that smartphones and tablets make them more productive at work, and 64% of iPhone owners use their device at least once per week for work—usually checking business email.

The days of enterprises outfitting mobile workers with a de facto BlackBerry may be over. When off the clock, employees have their own phones and "smart" devices, and few get excited by the prospect of carrying multiple devices throughout the day when clocked in. In theory, one robust device should do the job. However, IT managers have additional concerns.

"IT needs to know if the platform is secure enough to comply with established security policies," says Mark Jordan, senior product manager at Sybase (www.sybase.com). "With three devices, it's easy to just password-protect everything. With three thousand devices, you've got a whole different set of problems."

Fortunately, the first wave of solutions that can allow these two worlds to commingle rather than collide are now here.



According to a Sybase/Zogby mobile device survey released in March, business usage of personal phones leaps by over 30% in the move from feature phones to smartphones. In business contexts, standard phones are being used for voice calls, but smartphones are becoming a leading way for workers to check messaging when away from their desks.

Key Points

- Market data indicates that enterprise employees increasingly want to use their personal phones and tablet devices both on and off the clock rather than tote around different devices for work and personal use.
- There are multiple ways to have a secure, manageable environment for IT to control a user's personal device. The two most common methods are for IT to either control the entire device or only a certain area, called a container or sandbox, within it.
- In an enterprise setting, cross-platform management is just as important as security when choosing a phone/tablet container technology.

Multiple Models

According to Ken Dulaney, vice president of mobile computing at Gartner, there are four main technology approaches used for melding consumer communications devices into IT usage. The first is for IT to simply take control of the whole device. Users keep the platform and features for which they bought the device, but IT locks the entire device with a typically complex password. This can become cumbersome for the user after hours, but so can having to log in to two or three separate IT-managed applications throughout the day in situations when the whole phone is not managed.

The second approach is to use a "sandbox" or "container" architecture. Unlike on a PC, where one user can often see most (if not all) data on the system, a sandbox area within a phone contains a collection of secured applications and only grants entrance to a user via an approved login. The sandbox and all of its contents are managed by IT. Everything outside of the sandbox operates as per normal with the consumer device.

"With containerization, control shifts from the device to the application or container," says Dimitri Volkmann, vice president of enterprise product management at mobile enterprise software maker Good Technology (www.good.com). "There's generally one icon on your phone, and when you go into that application, you enter your work. IT has full control of the capabilities you have in this container and can remotely erase the contents of the container if you leave the company."

For some enterprises, the focus is to go beyond traditional email and PIM data and provide browser-based device collaboration across the Internet and intranets. This can include seeing the presence of colleagues from within the container and securely instant messaging with them, engaging in shared document management, and tying into unified IP communications.

If sandboxes sound similar to virtual machines, think of them as close cousins with a few important differences.

"When true virtualization is implemented in the operating system, you have two very distinct environments that are secured from each other," says Gartner's Dulaney. "The container offers decent security, but ultimately, there is a link between it and the operating system that could potentially be compromised. Most companies wouldn't care about that, but it is a little less secure than a truly virtualized environment. And remember that a truly virtualized environment requires a lot of processing power, it's very complicated, and users may not care for how it's implemented. So with containers, they have a reasonable compromise."

The fourth model—and the one Dulaney expects to become most accepted over time—was announced by Apple with iOS 4. Corporate applications get pushed to devices through a management server and are tagged with a certificate. Admins need only revoke one key on the device and suddenly all of the corporate apps disappear.

"Apple did this because they didn't like Good's container method," says Dulaney, adding that one of the advantages of the container method is that, regarding of which device platform you're using, the email application is identical. "The enterprise can like this approach because if they're getting support calls from people with different phone platforms, they know that the email client works the same on every platform."

Management

In the minds of IT, security is the biggest potential problem spot with allowing consumer phones on the corporate campus.

Alongside security, though, manageability is also paramount. IT managers opting to embrace consumer devices must either choose a solution that can span the half dozen or so major device platforms or else start making hard choices about what devices won't be allowed. Whatever gets decided, IT must be able to maintain a consistent set of policies across every supported device from a single management tool.

"When I'm managing all my users, whether they have iPhone, Android, or Windows Mobile, I want to be able to enforce the same policies for passwords and the same commands to wipe the containers." Good's Volkmann says. "I want one console for unified management of all platforms. Otherwise, it's just a nightmare."

"Management is best when it's invisible," adds Sybase's Jordan. "End users will tolerate an initial installation, but everything after that better be behind the scenes. A manager can push apps and config settings to that device [and] pull data from the device, but that's all done through the back end with the IT administrator. The end user isn't being actively managed. If the user is aware of being managed, that's when you've failed." P

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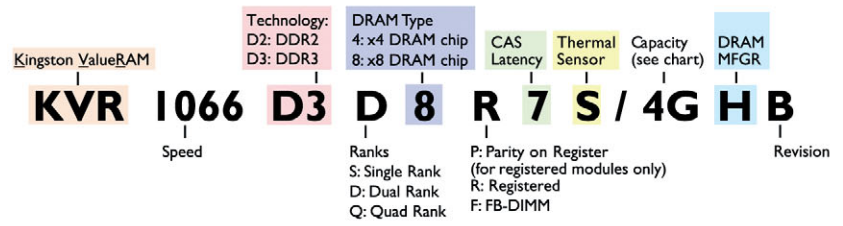

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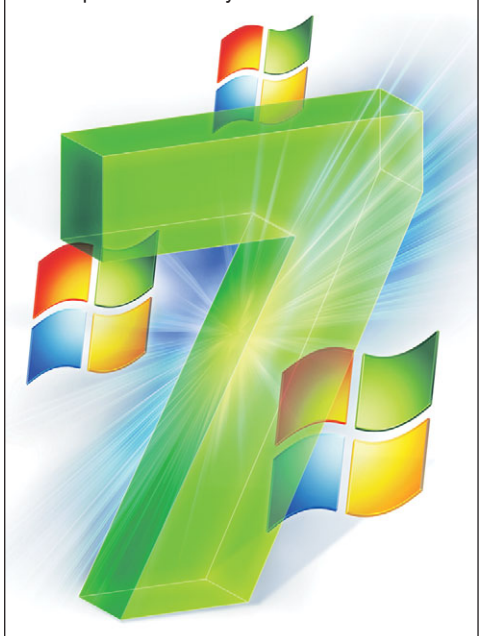
News

Research Indicates Windows 7 Pays Off For SMEs

The results of a white paper published by IDC and sponsored by Microsoft indicate that IT professionals from SMEs can reduce their support burden by deploying Windows 7. In fact, IDC states that when comparing Win7 with the OSes the companies previously had in use (predominantly Windows XP or, in some cases, Windows Vista), research showed that service desk labor dipped a dramatic 65% from 5.3 hours per PC per year to just 1.9 hours per PC per year. Further, IDC found that costs related to PC/OS support fell by 55% from 4.8 hours per PC annually to 2.2 hours per PC annually.



"IDC research shows that upgrading PC operating systems will be the No. 1 IT priority for both small and midsized firms in 2010, so there's clearly demand in the market, especially among those firms that put off upgrading during the Vista era," says Justin Jaffe, senior analyst for SMB & Home Office Research at IDC. "As mentioned in the white paper and case studies, IT managers and end users cited a number of benefits associated with Windows 7, including lower support costs, improved security, and increased productivity."

Significant Benefits

In the paper, titled "The Benefit of Using Windows 7 in Small and Medium-Sized Businesses," and based on data and interviews conducted with IT and end users in nine companies with 250 or fewer PCs, IDC found that "when 14 categories of common end-user activities related to keeping Windows PCs operational are considered, the savings result in 43 additional hours of productivity per year per user when using Windows 7." More importantly, IDC states, is that those figures translate to Win7 PCs being significantly more likely to be running at key periods daily, weekly, and monthly when demands are highest.

Perhaps of most interest to company owners is IDC's summation that the ROI of a move to Win7 can be recognized in as little as 7.2 months. Also of interest is the 45% change in IT labor hours related to deployment per PC per year, with deployment hours falling from 8.1 pre-Win7 to 4.4 hours with Win7. Where end users were concerned, IDC found that prior to deploying Win7, rebooting systems alone accounted for about 8% of lost time that users experienced annually vs. just 2% for Win7. More impactful issues, however, included downtime (20.3% vs. 11.6%), spyware and malware (15% vs. 8.6%), and new or updated software installations (12.2% vs. 8.2%).

by Blaine Flamig

CLIENTS

Cloud Data Integration Services

Technical Expertise & Understanding Of Business Requirements Necessary For Success

by Kurt Marko

• • •

Cloud-based SaaS has been a boon for enterprises looking to quickly deploy business applications without recruiting an army of expensive consultants and support personnel. Yet SaaS is like a wonder drug with nasty side effects.

The ease of procurement and deployment means technically unsophisticated users from individual business units are using the cloud as a backdoor for deploying apps without consulting IT, creating what Darren Cunningham, VP of Cloud Integration at Informatica (www.informatica.com), terms SaaS sprawl. This can result in a virtual cornucopia of applications, each with their own islands of data, which exacerbates a second unintended consequence of SaaS usage known as data management complexity. With some information created or consumed in the cloud and some in legacy on-premises systems, each realm needing to update and cross-pollinate the other with changes, data management can get unwieldy.

Although cloud-based apps may exacerbate data management challenges, Gaurav Dhillon, CEO of SnapLogic (www.snaplogic.com), believes the cloud provides the best solution to the multivariate problem of data integration between applications. Consultant and application integration pioneer David Linthicum agrees: "There's no reason we can't put all those [data] connectors and integration patterns in the cloud and deliver them out of the cloud."

A recent report from Info-Tech Research Group highlights the cloud/on-premises integration challenges using typical scenarios involving integrating legacy backend systems such as ERP and BI with SaaS front-end systems such as CRM or customer support. These illustrate what it considers the three essential SaaS data integration problems: migration (moving data from legacy systems to online providers), replication (bidirectionally copying changed data between online environments and on-premises data repositories or warehouses), and synchronization (replicating data in real time to allow applications living in each domain access to the same information). Cunningham adds a fourth problem: data quality, namely ensuring that information in each domain, cloud and on-premises, is not only consistent, but also standardized (in format and structure) and not redundant (deduplicated).

Solution Types

The market for data integration services is somewhat schizophrenic, driven by the often-disparate needs of two major SaaS customer segments. "I'm seeing two types of cloud adoption," says Ilan Sehayek, CTO of Jitterbit. "In the enterprise, the cloud is used as a way for departments to achieve some autonomy from IT, which is often very strapped for resources."

Being less sophisticated, departmental cloud customers desire cookbook, easy-to-use point solutions to solve a particular tactical data integration problem. Sehayek says the challenge "is to enable the same technical business analyst who can configure and manage [a SaaS application] to do data integrations." Such customers are prime candidates for a cloud-based data management service, according to Cunningham. Info-Tech's report concurs, noting, "The benefit of hosted integration services is that they are already cloud-based and designed to work with prevalent SaaS offerings. . . . This can significantly reduce implementation time and overall costs."

"The other scenario," Sehayek says, "is younger companies, very ambitious companies, that want to have absolutely no internal infrastructure—they want no servers and everything in the cloud." These present the challenge of moving data between different cloud providers. Cunningham actually sees a third deployment scenario in large enterprises with existing internal data management solutions moving some front-office applications, such as CRM or customer support, to the cloud, while keeping back-office apps, such as ERP or accounting, on-premises. These companies need to augment their current data management software with connectors for specific cloud services.

Dhillon believes that the problem of cloud data integration is best solved with an online, Web-like service. He says the myriad online applications organizations might use means the number of data transport variations between SaaS apps and databases is vast and growing. Dhillon says putting data management into the cloud creates a Web-like usage model where the relationship between SaaS apps and internal DBs is similar to that of an external Web server and internal client browser.

> New data migration and integration challenges . . . are causing a resurgence in the data integration market.

SaaS/On-Premises Data Integration Challenges

Despite the rich diversity and improved reliability of cloud-based applications, Linthicum says most enterprises aren't wholesale moving business processes into the cloud, but are adopting a hybrid of internal and external systems. Yet the myriad of applications, workflows, and data repositories used in most enterprises means the potential combinations of data sources and destinations are endless. Dhillon agrees: "No app is an island, but rather each floats in a broth of enterprise data."

Recommendations

New data migration and integration challenges wrought by the explosion of cloud applications and SaaS adoption are causing a resurgence in the data integration market, according to Linthicum. He says cloud providers are developing solutions for their specific product domains. "It remains to be seen whether they will provide very tactical integration between their systems and somebody else's or a complete integration out of the stack," he adds. Linthicum admits to preferring the all-encompassing cloud-based approach in which data management experts, with deep understanding of the various formats, schemas, and access protocols, develop services "with a wizard-like mechanism [for users] to assemble them. It's a huge endeavor, but ultimately we're going to need something like this, to put this integration in the hands of people who need it to leverage the cloud."

Burton Group analyst Joe Bugajski offers a note of caution to anyone looking for a quick fix. "Data integration is not a product but a process, albeit software products are important adjuncts." He adds that successful data integration requires blending technical expertise with an understanding of business processes and requirements. He says initial data migration projects should target just a few systems with limited amounts of data.

Key Points

- Moving business applications to SaaS, or adding online apps to the existing application portfolio, exacerbates data management, migration, and replication/synchronization challenges.
- Large firms already using enterprise data integration software can often utilize their incumbent solutions because most products have added support for data connectors to popular SaaS apps, cloud infrastructure services, and Web data access protocols.
- A new breed of SaaS data management services has emerged that puts the entire data connectivity and integration solution in the cloud. These are often point-to-point solutions between popular SaaS apps and enterprise DBMSes, but are evolving into an open and extensible connector 'marketplace.'

DATA CENTER MANAGEMENT

The Risks Of The Cloud

CloudAudit & AICPA Independently Tackle Cloud Security Controls

by Bridget Mintz Testa

• • •

Without audits and controls, it's impossible to tell if an enterprise's financials are in order; if an organization operates safely; or if a third-party service provider, such as a payroll company, is securing its customers' information. Existing IT audit requirements and controls may not apply or may be insufficient and can potentially make it hard for customers to find out what controls a cloud service provider has in place. Consequently, customers are notoriously anxious about the safety and security of using the cloud.

To address the issue, the CSA (Cloud Security Alliance) created CloudAudit (www.cloudaudit.org), formerly known as A6 (Automated Audit, Assertion, Assessment, and Assurance API). Headed by Christofer Hoff, director of cloud and virtualization at Cisco and a technical advisor and founding member of CSA, CloudAudit will use the work of the Trusted Cloud Initiative—also a CSA effort—to create an automated method for service providers to show customers the controls they have in place.

Simultaneously, the AICPA (American Institute of Certified Public Accountants), aware of the misuse of its SAS 70 in cloud computing, is stepping up to the issue with new guidance for an appropriate existing standard. With all of these efforts, cloud security challenges may finally be addressed.

Existing IT Controls

Controls are essentially rules to ensure that enterprises follow proper financial, safety, security, business, and other practices. A rule that requires signatures of two execs on a check that exceeds a specific amount is an example of simple financial control. Common IT controls include rules governing access to information by employees, the powers granted to a systems administrator, or the types of storage devices allowed in sensitive areas. Audits ensure that the controls an organization claims to have are in place and work properly.

COBIT and ISO/IEC 27002:2005 are two well-known IT controls. COBIT was developed by the IT Governance Institute (www.itgi.org), a nonprofit organization created by the ISACA (Information Systems Audit and Control Association), to cover the development of controls for IT policy and practice in enterprises. ISO/IEC 27002:2005 was created by the ISO and the IEC so organizations could establish controls for good information security.

Although these predate cloud technology, they "can apply to cloud audits," says H. Peet Rapp, CISA, an independent information security consultant. They aren't necessarily sufficient, however.

"Evaluation, certification, and auditing all tend to dwell on best practices," says Jay Heiser, a research vice president at Gartner. "For Windows and Linux, we know their vulnerabilities. But for this new [cloud] platform, this new [cloud] computing model, we don't know those risks. We don't know if their creation, design, and build are secure. I don't see any of [these existing IT controls] addressing these problems."

CloudAudit

The ISACA and other organizations, which could easily work independently, have instead joined the CloudAudit/A6 working group. Evaluating the appropriateness of existing IT and other relevant controls isn't the goal, or at least not an initial goal, of CloudAudit. It aims to help cloud customers by helping service providers.

"The problem we're trying to solve is that you're giving up direct control of your infrastructure to a third party, and you lose a lot of the transparency that security, audit, and compliance people are used to having," says Hoff. "So [customers] send off these 600-page documents to cloud providers to get them to answer [questions about their controls]. The providers pull that together, spending a lot of money and time, and the user waits a long time."

The Trusted Cloud Initiative is compiling a list of existing IT and other security standards and controls that may be applicable to the cloud. Known as the CSA Audit Matrix, version 1 is already available.

Cloud service providers may implement one or more of these control frameworks, and CloudAudit's goal is to establish a common way "to automate the exchange of this information," Hoff says. CloudAudit is creating a series of directories of the control frameworks. Using these directories, service providers can automatically check off the controls they use. Customers can automatically query the directories to find out what controls the service providers have in place. The first version of CloudAudit's directories should be out by the time you read this.

SAS 70

SAS 70 is a standard used by auditors when the financial controls of their clients are outsourced, explains Chuck Landes, vice president of professional standards for the AICPA. For example, if an auditor's client has outsourced its payroll to a third-party provider, the auditor needs to be sure that the third party has sufficient controls in place because they affect the auditor's client.

"A lot of people over time have misused SAS 70 for reasons never intended," says Amy Pawlicki, the AICPA's director of business reporting assurance and advisory services. "Third-party service providers are trying to say that current and prospective customers can trust that they have the controls in place for security, availability, privacy, confidentiality, and processing integrity. The standard covering that is AICPA Attestation 101. AT 101 isn't restricted to financial controls [as SAS 70 is]. It covers controls regarding security, availability, privacy, confidentiality, and processing integrity. Third-party providers have tried to use SAS 70 instead of AT 101."

The AICPA is developing a new guide for AT 101, which is a standard that has existed for a long time. "The new guide provides guidance to an auditor for testing security, availability, processing integrity, confidentiality, and privacy," Pawlicki says. The guide should be available by the end of this year.

Cloud computing isn't risk-free today. With the Trusted Cloud Initiative, CloudAudit/A6 and AICPA's new guidance on AT 101, it's possible that cloud computing's risk will be at least reduced within a few years. P

Key Points

- Existing IT audit and control frameworks predate the cloud. Although they may be applicable to cloud services, they are likely not to be sufficient because they don't address the cloud environment.
- CloudAudit/A6, a Cloud Security Alliance initiative, seeks to automate a process whereby cloud service providers can automatically record the controls they have in place and customers can perform automatic queries to determine what those controls are.
- The AICPA will publish, by the end of the year, new guidance for auditors regarding the use of Attestation 101 to determine cloud providers' controls for confidentiality, privacy, processing integrity, security, and availability.

SAS 70 & Risk

"SAS 70 wasn't intended to assess risk," says Jay Heiser, research vice president at Gartner. "It isn't even meant to be for prospective clients. It's meant for auditors, for providers, and existing customers, not for sales and marketing. Some providers are hiding behind that provision, saying they can't use it for sales and marketing, but we have it." Having SAS 70 is essentially meaningless, however, because a company can choose which controls SAS 70 checks.

A service provider claiming to be "SAS 70-certified" is also meaningless. "There is no such thing as 'SAS 70-certified' because every SAS 70 is different," says Amy Pawlicki, director of business reporting assurance and advisory services for the AICPA. That's because "every service organization's controls are different," she says. "SAS 70 is only relevant to the customer auditor and manager, not to anyone else."

NEXT GENERATION LOGISTICS FREIGHTMASTER TRANSPORTATION MANAGEMENT SYSTEM

NEW PRODUCT

by Joanna Safford

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News

Report Ranks Difficult-To-Find Skill Sets

Dice.com, a tech hiring site, recently conducted its July 2010 Dice Report, and the results reveal something you may already know: IT talent is hard to find. The report, which looks at a number of factors affecting the technology job market, provides a list of the top 10 hardest-to-fill IT positions or skill sets. Specifically, Java/J2EE is the hardest skill set or position to fill, security is in second place, and software developer is third; rounding out the top 10 are SAP, database administrator, .NET, Oracle, SharePoint, C#, and active federal government security clearance.

So, why is demand so high for such skill sets? Tom Silver, senior vice president of North America at Dice.com, says it's because companies delayed their tech projects and now they want to dip into the pool of new hires, particularly for the 10 positions that make hiring difficult.

"Thinking about technology more broadly, what's happened in the last nine months is that many of the technology projects that were put on hold due to the recession are coming back," Silver says. "At the same time, it seems like we are at the beginning of a technology upgrade cycle, and various companies are launching new technologies and new services. This is all contributing to strong recruiting dynamics."

The statistics confirm this resurgence of tech positions, even if they require highly skilled professionals. "On the software developer side, the wild stat for me is [that] at the worst part of the recession, there were still about 6,500 job postings on Dice for software developers," Silver says. "Now, there are more than 10,600 openings."

He adds, "These are hard to find because it's a versatile skill set—you have to be able to conceptualize, design, and prototype ideas, as well as consistently upgrade processes and products."

Broaden Your Scope

The Dice Report states that "demand for security experts is so broad-based [that] these professionals could work for defense contractors, retailers, or transportation companies." Because position availability is potentially very flexible, job hunters who are searching for a particular company should consider offers outside their current location.

"One of the pieces of advice we give tech pros is to be flexible on location since there are literally thousands of positions available and they may not be in your town," Silver says. "But, it's not related to pay, and frankly, nearly every major city is showing growth year over year."

by Joanna Safford

Time To Re-evaluate SaaS Solutions?

Assess Your Software Needs Before Taking The Plunge

by Robyn Weisman

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Recently David Cearley, vice president and fellow at Gartner gave a presentation discussing SOA and application development and integration, and he said something that on its face seemed almost sacrilegious in this age of outsourcing applications and cloud computing services.

According to Cearley, SaaS (software as a service) will have a role in the future of the data center, but perhaps not the dominant role originally envisioned by many prognosticators. His reasoning for this stems from the fact that many bad practices that have plagued on-premises software paradigm are happening similarly in the SaaS world. For example, "shelfware," where a given subscription to a SaaS solution is not being accessed by its intended end user, is a problem. "It [can] happen to any company, especially those that have downsized their workforce, or one that has oversubscribed to trigger a volume discount," Cearley said.

Cearley's assertion that organizations need to re-evaluate the rationale for using SaaS solutions is primarily a recommendation that enterprises must apply best practices for evaluating solutions for their data centers, regardless of their delivery model.

New Data Center Solutions, Same Job

Blane Warrene, CEO of Arkovi (www.arkovi.com), a social media archiving platform designed for enterprises, and who has nearly two decades of experience working as a data center professional, says that if you're buying a SaaS solution and you haven't figured out the potential value proposition, haven't outlined the requirements you need to satisfy for your organization, and have not extensively evaluated potential vendors, you simply are not doing your job.

"There are a number of successful models of SaaS . . . that offer great examples of how you can actually outsource," says Warrene. "With SaaS, the driver really is in part finding the right vendor to get the closest to your requirements because there is less customization available than building it yourself."

Robert Mahowald, research vice president and lead of SaaS and cloud services research at IDC, says that IT professionals having any kind of sophistication in how to source IT equipment, software, and services know that SaaS does not represent an attempt to obviate the steps that need to be taken during the evaluation process. "They've got to be aware of that and [build] them into their decision-making, just as they would do with any other IT purchase," he says.

Become More Introspective

Mahowald says that the four steps put forth by Cearley (see the "Evaluate SaaS: Four Steps To Follow" sidebar) are probably self-evident to most data center decision makers and that those points are stepping stones for deeper questions about the nature of your data center. "It's important to delineate what does value mean, what does choice mean, what level of governance tools are available from most providers as opposed to what you think you need for your company, and what is your context for evaluating vendors," among other things to make the rationale behind your decisions more meaningful.

Arkovi's Warrene adds that enterprises need to become more introspective about their processes. "As a buyer [of SaaS solutions], I've looked at my processes and asked myself if I can change my processes so that I can use this [SaaS] platform successfully because it's greener to use from an environmental impact and financially you can greatly reduce your data center and systems expenses," Warrene points out.

According to Warrene, SaaS offerings must be able to seamlessly integrate with back-office systems to be viable enterprise solutions. He notes that if you aggregate data with a SaaS solution, you need to consider how that data will enter the corporate systems, which is where the master backup, business continuity, and disaster recovery exists. "Your management team needs to feel comfortable with the fact that you're going outside of your [internal network] to solve a particular business problem," Warrene explains.

Changing The Role Of IT

IDC's Mahowald says data center and IT managers need to consider the ways in which SaaS changes the role of IT. "You're moving away from powering and maintaining physical assets to understanding your company's conception of virtual assets," he says.

"There are going to be different kinds of data governance roles in an organization because you've got sales data in one place, product catalog data in another place, and other customer resource data someplace else. A new set of different skills and roles within IT come into play when you start to consider cloudsourcing for some of your application and structure needs," Mahowald says.

Key Points

- The same sort of best practices used when evaluating on-premises software solutions ought to be followed when evaluating SaaS alternatives.
- Data center managers need to really think about how the benefits of a SaaS solution measure up to its ability to effectively integrate with their current back-end systems.
- SaaS solutions change the role of IT because of the changes that come with understanding an enterprise's virtual assets and changes in data governance that comes when data no longer resides in a unified data center.

Evaluate SaaS: Four Steps To Follow

Gartner analyst David Cearley offers the following recommendations for companies considering SaaS solutions.

Determine value. Organizations should evaluate the trade-offs of SaaS. Although it limits infrastructure overhead and management and lowers short- to medium-term total cost of ownership, SaaS applications are limited and cannot be counted as assets on a balance sheet.

Develop governance. Business side and IT management should collaborate and develop a SaaS-specific policy and governance document that addresses both internal and external governance matters.

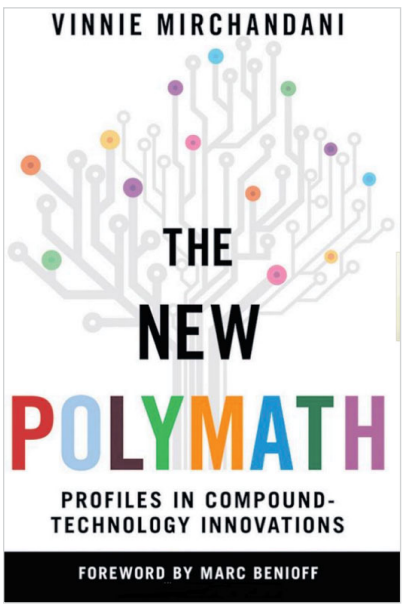
Evaluate vendors. Organizations need to appraise SaaS vendors for clear-cut application requirements including business performance and operation management capabilities.

Develop an integration road map. Design and refine your road map of the ways in which SaaS applications will integrate with your on-premises applications and other SaaS solutions already deployed.

Robert Mahowald, IDC research vice president, says that this road map should also include integration with your systems' infrastructure software, as well as your business applications.

> If you aggregate data with a SaaS solution, you need to consider how that data will enter the corporate systems.

BOOK REVIEW



Successful Business Innovation

The New Polymath: Profiles In Compound-Technology Innovations

Author: Vinnie Mirchandani
Publisher: Wiley
Price: $39.95
Format: Hardcover, 384 pages

by Kurt Marko

• • •

The search for secrets to successful business innovation often hinges more on execution than strategy. Revolutionary changes are invariably fostered by visionaries who break out of established preconceptions to conceive solutions unimagined by others often more experienced and steeped in the problem domain. These courageous catalysts are characterized by the ability to draw upon a range of disciplines for inspiration and insight.

The author of "The New Polymath," technology business consultant and former Gartner analyst Vinnie Mirchandani, was inspired to entitle his book with the term polymath as he observed innovative new companies and products in his work. In blogging his thoughts, he says, "I started to notice two patterns. I was seeing ever more complex products and services that blended a variety of technologies. I was also seeing refugees from information technology increasingly move into cleantech and healthtech."

> Revolutionary changes are invariably fostered by visionaries.

Mirchandani labeled these modern-day polymaths, "as in Greek for someone who excels in many disciplines . . . We call them Renaissance men and women these days. They exemplify an AND not OR mindset," by weaving insights, concepts, and technologies from multiple disciplines into a new, compound solution that is unconstrained by traditional disciplinary or market silos.

Wicked Problems

Mirchandani's fundamental tenet is that what he terms today's "wicked problems" and "grand challenges"—whether in information technology, health care, or clean energy—can only be solved through a multidisciplinary approach, which requires unconstrained, polymathic thinking, a seeming paradox in this era of increased specialization.

"Today, most of us seem to specialize: We are monomaths in a world of exploding knowledge." Yet his corporate exemplars of innovation manage to bridge this dichotomy through creative new organizational structures and IT solutions, like collaboration and social software.

"Well-designed enterprises are taking individual monomaths, leveraging a wide array of technologies, and becoming the new polymath." The new polymath is like a corporate Borg, creating a collective consciousness and hive mind of expertise from the myriad talented monomaths in its midst.

The book's philosophical groundwork occupies only a small introductory section; the bulk is devoted to detailing a framework and individual building blocks necessary for the new polymath. He uses the clever, if somewhat contrived, acronym RENAISSANCE to describe the innovative practices and technologies of polymathic organizations, each illustrated by numerous examples and corporate profiles.

Given the breadth of Mirchandani's scope, his profiles aren't confined to traditional high-tech firms, nor are the building blocks all related to IT. Yet several themes will resonate with IT leaders, including the imperative of exploiting the consumerization of technology, the ubiquitous connectivity of people and devices, sophisticated analytical modeling, social networking and online collaboration, and cloud computing. P

Key Concepts

- "The New Polymath" is the latest in a long line of titles outlining strategies to foster and sustain business innovation. It differs from its predecessors with an emphasis on the need for multidisciplinary approaches in fostering innovation and solving vexing problems.
- Although today's demand for specialization and domain expertise renders polymaths largely obsolete, the author contends modern organizations can become virtual polymaths by creatively engaging their employees and exploiting new information technologies.
- The book contains 11 principles, or building blocks, for the polymath organization, supported by detailed profiles of six corporate polymaths and scores of shorter illustrative real-world examples.

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You can find more detailed information on these companies and the products they offer inside this issue.

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Kingston Technology is the world's independent memory leader. The Fountain View, Calif.,-based company was founded in 1987 and now employs more than 4,000 people worldwide and serves an international network of distributors, resellers, retailers, and OEM customers. Like all of Kingston's memory products, its ValueRAM line of standard server memory is subjected to rigorous testing to ensure reliability, integrity, and compatibility.

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Clients

Next Generation Logistics has focused on consulting, outsourced contract services, and technology for the past 21 years, establishing itself as an organization known for single-source, expert supply chain advice and cost-effective technological upgrades. Next Generation Logistics strives for quality customer service and a high standard of excellence.

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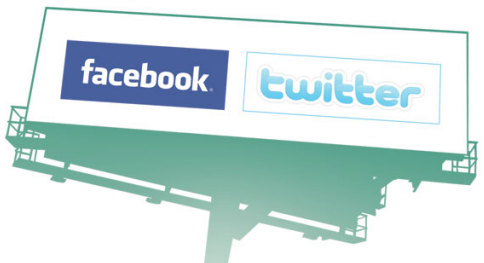

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